DOCUMENT RESUME

ED 374 599 EC 303 321

AUTHOR	Fiore, Thomas A.; Becker, Elizabeth A.
TITLE	Promising Classroom Interventions for Students with Attention Deficit Disorders.
INSTITUTION	Research Triangle Inst., Research Triangle Park, NC. Center for Research in Education.
SPONS AGENCY	Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE	Jul 94
CONTRACT	H023S10005
NOTE	215p.
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC09 Plus Postage.
DESCRIPTORS	Aggression; *Attention Deficit Disorders; Career Education; Classroom Environment; *Classroom Techniques; Cooperative Learning; Earth Science; *Educational Practices; Elementary Secondary Education; *Intervention; Literacy Education; Mainstreaming; Peer Teaching; Self Management; Study Skills; *Teaching Methods; Tutorial Programs; Videodisks; Writing Strategies

ABSTRACT

This report presents school-based interventions that teachers can employ in regular classrooms to educate students with attention deficit disorders (ADD). The report attempts to compensate for the limitations in the ADD research literature by extrapolating from research on other difficult-to-teach students to identify and describe academic and social skills interventions that are likely to be effective in regular classrooms with students who have ADD. The first chapter provides an overview of the interventions and explains procedures followed in selecting the interventions. Each of the remaining eight chapters focuses on a single intervention program. These include: (1) classwide peer tutoring, (2) early literacy program, (3) "Tribes," (4) self-regulated strategy development in writing, (5) earth science videodisc program, (6) skills for school success, (7) aggression replacement training, and (8) life-centered career education. Each of the eight chapters provides a description of the intervention's purpose, its content and activities, implementation requirements, impact on teachers, significant costs, testimonials of effectiveness, limitations, research support, contact point for more information, and a list of references. To a large extent, the program developers, as well as the teachers and administrators who are using the programs successfully, describe the interventions in their own words. (JDD)

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Promising Classroom Interventions for Students with Attention Deficit Disorders

July 1994

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This project has been funded with Federal funds from the U.S. Department of Education under Contract No. H023S10005. The content of this publication does not necessarily reflect the views or policies of the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

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Contents

Preface v

Chapter One. Introduction: Promising Interventions for Students with ADD 1

Chapter Two. Classwide Peer Tutoring 7

Chapter Three. Early Literacy Program 37

Chapter Four. Tribes 61

Chapter Five. Self-Regulated Strategy Development in Writing 91

Chapter Six. Earth Science Videodisc Program 117

Chapter Seven. Skills for School Success 143

Chapter Eight. Aggression Replacement Training 165

Chapter Nine. Life-Centered Career Education 191

Preface

This report on promising interventions for educating students with attention deficit disorders (ADD) follows an extensive review and synthesis of the professional literature conducted by a research team at the Research Triangle Institute. That literature review was part of a broad initiative, undertaken by the Office of Special Education Programs, U.S. Department of Education, to organize the existing knowledge base relevant to the education of students with ADD. We have reported the findings from the review in various formats (Fiore, Becker, & Nero, 1993a, 1993b, 1993c, 1994).

Although fruitful in identifying intervention strategies that have demonstrated some effectiveness in treating children and youth with ADD, our previous work revealed significant limitations in the literature in regard to useful school-based interventions, particularly related to academic instruction. These limitations of the research are not surprising because most of the intervention research on children and youth with ADD has been conducted by researchers in the fields of psychology and medicine in clinical, rather than school, settings. This report is an attempt to compensate for the limitations in the ADD research literature by extrapolating from research on other difficult-to-teach students to identify and describe academic and social skills interventions that are likely to be effective in regular classrooms with students with ADD.

Acknowledgments

Our work would not have been possible without the generous support of researchers, teachers, and administrators who took time from their busy schedules to talk with us. These individuals (in 11 states) described to us their determined attempts to improve the education of the diverse students they serve, and their words constitute much of the body of this report. Although we do not name them here in the Preface because they are identified throughout the report, we greatly appreciate their assistance. We also want to thank Ellen Schiller in the U.S. Department of Education's Office of Special Education Programs for her commitment to improving the education of students with ADD and her thoughtful guidance and support throughout this project.

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Chapter One

Introduction: Promising Interventions for Students with ADD

This report describes school-based interventions that teachers can employ in regular classrooms in educating students with attention deficit disorders (ADD). We designed the report in a format that we hope will be useful to teachers and other school-based decision-makers. Although not a catalog of all the interventions that might be effective with students with ADD, or a how-to manual, it provides examples of interventions that teachers can use with reasonable confidence, and thus serves as a guide to educators interested in improving services for students with ADD.

This first chapter provides an overview of the interventions and explains the procedures we followed in selecting those highlighted in this report. Each of the remaining eight chapters focuses on a single intervention program with promise for educating students with ADD. As much as possible, we have let the program developers, as well as teachers and administrators who are using the programs successfully, describe the interventions in their own written and spoken words.

Procedures for Selecting the Highlighted Interventions

In preparing this report, we identified and then investigated interventions with demonstrated effectiveness in two broad areas: academic instruction and social skills training. Because school-based interventions in these areas have not been reported in the ADD research literature, we searched the literature for academic and social skills interventions tested with similar populations. In particular, we looked for classroom-based interventions that are effective with students with learning disabilities or behavior disorders and that include strategies consistent with the cognitive and behavioral characteristics of students with ADD. From this literature search and a series of telephone interviews with educators across the nation, we identified a number of interventions that hold promise for students with ADD (with or without hyperactivity).

Thus, for this report, we selected programs that met the following criteria:

- Demonstrate effectiveness with students with ADD characteristics such as inattention, impulsiveness, or hyperactivity (including students with learning disabilities or behavior disorders)
- Demonstrate effectiveness in public schools
- Are practical for use at the classroom level
- Lead to independent learning
- Serve as examples of the types of interventions that teachers can employ
- Cover a range of grade levels and academic subjects.

To investigate the eight programs, we contacted individuals who developed or conducted research on these promising interventions, scrutinized the research related to the programs or their component strategies, and visited schools located throughout the nation where the programs have been implemented successfully. In the schools, we observed the interventions and interviewed teachers and administrators about their implementation and impact. Our goals in investigating the programs were to assess their applicability to students with attention deficits (each program had demonstrated effectiveness with other populations) and to gather enough information to create descriptions useful to practitioners seeking effective ways to serve students with ADD.

The Highlighted Programs

Exhibit 1.1 identifies the eight programs we selected. Most of the interventions focus directly on academic instruction, addressing instructional strategies, specific subject content, or both. The other interventions primarily focus on social and interpersonal skills, but are also integrally related to academic productivity.

Seven of the eight programs are "data-based" in the broad sense of that term. As described in the subsequent chapters of this report, five programs have research evidence of their overall effectiveness; two others, although not empirically tested as total programs, are based on techniques and strategies with positive research evidence; and one, which lacks research scrutiny altogether, has been widely employed in

Exhibit 1.1: Featured Interventions

Program	Relevant Subject Areas	Distinctive Instructional Features	School Level
Classwide Peer Tutoring	Mathematics, reading, spelling	Reciprocal peer tutoring with group-oriented reinforcement	Elementary
Early Literacy Program	Reading, writing	Metacognitive strategies in a literacy community	Elementary
Tribes	All subjects, social skills	Cooperative learning in a cooperative classroom environment	Elementary
Self-Regulated Strategy Development in Writing	Writing, reading	Self-regulated metacognitive strategies	Elementary
Earth Science Videodisc Program	Earth science	Core concepts via interactive videodisc	Middle/junior high
Skills for School Success	All subjects, organizational and study skills	Teacher-directed, workbook-based curriculum	Elementary, middle/junior high, and high
Aggression Replacement Training	Social skills, self-control	Multi-modal, participatory, psychoeducational curriculum	Middle/junior high and high
Life-Centered Career Education	All subjects, daily living skills, career education, social skills	Comprehensive transition assessment and curriculum	Middle/junior high and high

schools for nearly 20 years. Researchers, however, have studied none of these programs specifically with students with ADD. We can recommend them with some confidence for these students because all eight programs (or the strategies on which they are based) have demonstrated effectiveness, through research or practice, in educating students with other mild disabilities; and educational interventions tend to be effective across students with mild disabilities. Additionally, the programs are consistent with what we know from research on strategies for the treatment of children and youth with ADD in nonschool (clinical) settings.

Keeping This Report in Perspective

Until researchers study these and other interventions with students with ADD, teachers are left to make educated guesses about what will work in their classrooms. Although we are reporting on successful outcomes that are possible with these interventions, similar outcomes will not necessarily occur in every setting, which is why monitoring of outcomes is essential. We urge teachers not to adopt an intervention simply because it has been successful elsewhere, but to monitor results systematically in their classrooms by comparing outcomes across students, classes, schools, or years. Teachers should use the information in this report to generate hypotheses about what will work for students in a given setting, obtain the information and resources they need to implement the interventions, and monitor results to test those hypotheses.

This report provides both subjective and objective information to inform hypothesis-making. In weighing the evidence presented here, readers should keep in mind that our purpose in selecting individuals to interview for this report was not to evaluate the programs—we did not seek out critics or those who have tried to use the programs and failed. The educators whom we quote in the following chapters were

recommended by the program developers or by individuals to whom the program developers referred us. Our work in exploring these programs, therefore, does not constitute an objective evaluation of their effectiveness with students with ADD or any other students. Instead, we obtained testimonials of how the programs work from practitioners who are using them successfully. This anecdotal evidence provides a biased perspective, but this perspective has value in that it illustrates the positive outcomes that are possible. For a more objective or scientific perspective, readers should refer to the research studies listed in the Preface and in the Selected Research exhibits in each of the following chapters.

Organization of the Subsequent Chapters

The format is similar across the remaining eight chapters, where we describe programs that are examples of interventions teachers can use with confidence in educating students with ADD. We begin each chapter with a description of the purpose of the highlighted program, then present information about the program's content and activities. Next we describe implementation requirements and the impact on teachers. Where significant costs are involved, we detail these. We then present testimonials of effectiveness from teachers and administrators who have used the program—first are comments on the program's general effectiveness, then comments on the program in relation to students with ADD. Next we present the limitations raised by the educators we interviewed. We then describe the research support for the program itself or for the strategies and techniques on which the program is based. Finally, we provide a person or organization to contact for more information and a list of references.

Chapter Two

Classwide Peer Tutoring

Classwide Peer Tutoring *is an instructional strategy which is designed to help students master specific content—and master is the key word there. It gets all the kids in your class academically engaged and it does it in a fun, game-like format which is very motivating to students.*

Ann Lowe
Inclusion Coordinator

The Purpose

Classwide Peer Tutoring (CWPT) is a program developed initially by Joseph Delquadri, Charles Greenwood, and colleagues at the University of Kansas. In this chapter we focus on the intervention as they apply it and as it has been applied by Lynn Fuchs and her colleagues at Vanderbilt University. Dr. Fuchs' work has combined the use of curriculum-based measurement with an extended version of peer tutoring that addresses a broad curriculum. Larry Maheady, Gregory Harper, and their associates at the State University of New York (SUNY)-Fredonia have also contributed substantially to the development of *Classwide Peer Tutoring*.

In their *Classwide Peer Tutoring* implementation manual, Greenwood, Delquadri, and Carta (1988) describe their *CWPT* as

> . . . an instructional procedure that enables the teacher to engage all students in a classroom simultaneously, in a variety of academic tasks. CWPT is timely, because many classroom teachers across the country are becoming interested in methods for serving students with heterogeneous abilities within a single classroom. CWPT is particularly appropriate for teachers serving students with widely diverse skill levels . . . . CWPT is also appropriate for use with low achievers and students who are difficult to teach, such as students with learning disabilities and other mild handicaps.
>
> CWPT is based upon reciprocal peer tutoring and group-oriented reinforcement contingencies (e.g., cooperative learning). It, therefore, enables students to receive the necessary opportunities to practice, and thus, learn basic skills in a systematic yet enjoyable way. These skills can include fluent reading, rapid solutions to math facts and simple computations, and automatic spelling and reading of sight words.

> As an integrated behavior management and direct instruction procedure, CWPT simultaneously influences each student's engagement [with] and fluency/mastery of the academic task. Consequently, CWPT reduces off-task and competing classroom behaviors. Research shows that students achieve more in less time when they use tutoring compared to conventional teacher-developed instructional procedures. Because of its peer tutoring component, CWPT powerfully affects students' social interactions relative to academic accomplishment. Peers work together in pairs to achieve a common team goal. Research also suggests that classroom teachers find CWPT to be an efficient procedure and one that they continue to use from year to year. (p. iii)

In addition to its direct impact on instruction, Greenwood and his colleagues emphasize the potential effect of *CWPT* on the learning environment:

> Compared with conventional instruction, [peer-mediated instruction] directly enlists the naturally existing sources of peer group influence and motivation in direct support of the academic and social goals of the teacher, the classroom, and the school. . . . For those teachers interested in creating an interesting, exciting, and productive instructional climate for their students, peer-mediated approaches are clearly an alternative that should be considered. (Greenwood, Carta, & Kamps, 1990, p. 199)

> Much of teacher-designed instruction . . . fails to engage the academic behaviors of students of diverse abilities. [Hall, Delquadri, Greenwood, & Thurston, 1982] discussed this failure in terms of the "opportunity to respond," a term they used to describe the ecological arrangements necessary to support students' academic responding and engagement. . . . CWPT is an instructional arrangement designed specifically to

It provides a structured opportunity for kids to focus and practice what we're asking them to get better at—whether it's spelling, or math computation accuracy, or reading rate. There's no substitute for practice to get better. It provides frequently scheduled opportunities to do that.

Shirley Trees
Elementary School Principal

increase the proportion of instructional time that all students engage in academic behaviors and to provide pacing, feedback, immediate error correction, high mastery levels, and content coverage. . . . The program is based on principles derived from applied behavior analysis (e.g., Greenwood & Hops, 1981; Hops et al., 1978), mastery learning (e.g., Keller, 1968), and process-product studies of effective instruction (e.g., Brophy, 1979). (Greenwood, Delquadri, & Hall, 1989, p. 372)

Practicing educators provide additional information about the purpose and scope of *CWPT*:

It doesn't have its own curriculum. It can be implemented in whatever curriculum [you have]—whatever spelling program, whatever science content, whatever math curriculum. That's one of its attractive features. It's not material specific or material dependent. You can take the strategy and put it anywhere. You can put it with any size group because all you need is a pair. So it works equally well with groups of 12 or groups of 25, because everybody's engaged. The teacher can circulate and help troubleshoot or problem-solve or keep kids on task.

Shirley Trees
Elementary School Principal

It's for a highly organized teacher who is structured, likes to see the kids on task, and doesn't have a problem with a little noise. It's productive noise, but if you have a teacher who doesn't want to hear kids talk to each other, it's not for them. Disorganized teachers just don't do it right. You've got to be a good teacher.

Ann Lowe
Inclusion Coordinator

The best features are the academic engagement and the opportunities for kids to practice. It would be nice if our kids would go home and practice their flashcards with their parents, but they don't. This is a planned time during the day when kids have the opportunity to master something, and it doesn't take long.

Ann Lowe
Inclusion Coordinator

It's a real on-task activity. If we were doing round-robin reading, the one who knew he or she was next would be paying close attention and would be focused with me, but the other ones who had already read would think they were off the hook.

Peggy Kooser
Fifth Grade Teacher

It is a way for the students to work with each other and help each other rather than just me always being the person to assist them.

Debbie Bell
Third Grade Teacher

The Content and Activities

CWPT is a highly organized instructional method used primarily for whole-class instruction in general education classrooms. Greenwood and his colleagues explain how their system works:

> CWPT is a system in which tutor-tutee pairs work together on a classwide basis. At the beginning of each week, all students in a class are paired for tutoring, and these tutor-tutee pairs are then assigned to one of two competing teams. Tutees earn points for their team by responding to the tasks presented to them by their tutors. The winning team is determined daily and weekly on the basis of the highest team's point total. Tutor and tutee roles are highly structured to ensure that tutees receive rapid response trials in a consistent format and that a standard error-correction procedure is applied. . . . Teachers organize the academic content to be tutored into daily and weekly units and prepare materials to be used within the CWPT format. Tutoring occurs simultaneously for all tutor-tutee pairs and involves the entire class. This leaves the classroom teacher free to supervise and monitor students' tutoring sessions. In summary, CWPT involves (a) content materials to be tutored (e.g., reading passages, spelling word lists, or equation lists), (b) new partners each week, (c) partner-pairing strategies, (d) two teams competing for the

highest team point total, (e) contingent individual tutee point earning, (f) tutors providing immediate error correction, (g) public posting of individual and team scores, and (h) social reward for the winning team. (Greenwood, Delquadri, & Hall, 1989, p. 372)

In the most successful tutoring programs, a high degree of structure is provided with frequent teacher monitoring of tutoring situations. Students are trained in the procedures necessary to act as tutors and tutees. On a given day, they know precisely whom to tutor, what material is to be covered in the tutoring sessions, how to correct errors, and how to award points for correct responding. Monitoring by the teachers is continuous and weekly assessments are provided so that students receive feedback on their level of mastery. (Greenwood, Carta, & Kamps, 1990, p. 187)

Exhibits 2.1, 2.2, and 2.3 provide examples of data sheets and a graph used in monitoring Delquadri and Greenwood's *CWPT*. School-based educators provide further explanations about how *CWPT* works in practice:

You are able to diversify instruction, which is real important for me because, having an inclusion classroom, I have students who have ability levels varied from reading at first grade level to students who read beyond ninth grade. Most the time trying to plan instruction for that kind of spread would be a nightmare, but this way it works. . . . If it's reading, you can all be doing reading peer tutoring with some students doing it in a novel because that's where their reading level is, some students might be in a basal text because that's appropriate for them, some students might be in an alternative reading series. . . . In math, when we are on multiplication or division facts I use it every day. The higher-level child who has already passed all the times facts works with the child who hasn't, in order to help them pass. For the child

To do it right, in reading it should take 40 minutes every day, four days a week. In spelling and math you can get it in in 30 minutes a day. A lot of teachers only do it three days a week, and I think you can get by. If you want to see really good results, do it four days.

Ann Lowe
Inclusion Coordinator

(continued on page 16)

Exhibit 2.1: Reading Rate Data Form

Reading Rate Data Form

Name: Pat Smith Level: 9 Date: 10/13/94

This is based on a 1-minute reading session on tutored materials.

Beginning Page: 25 Beginning Word: These

Ending Page: 26 Ending Word: home.

Error Tally

✗	✗	✗	✗	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48

1. Total Number of Words Read : 116
2. Total Errors : 4
3. Total Correct : 112

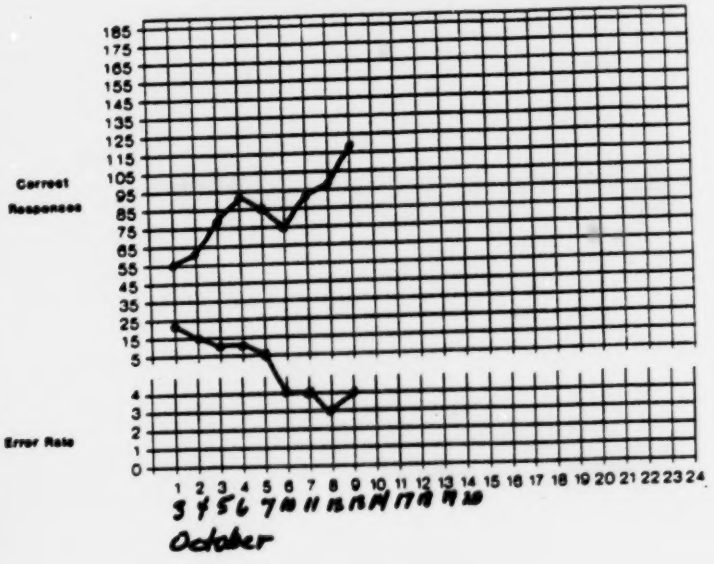
Percentage Correct : 96.5 % (#3/#1)

Correct Words Per Minute : 112 (#3/1 minute)

Incorrect Words Per Minute : 4 (#2/1 minute)

Source: Adapted from Greenwood, C. R., Delquadri, J. C., & Carta, J. J. (1988). *ClassWide Peer Tutoring (CWPT): Programs for spelling, math, and reading*. Seattle, WA: Educational Achievement Systems.

Exhibit 2.2: Reading Rate Chart



Student's Name Pat Smith

Source: Adapted from Greenwood, C. R., Delquadri, J. C., & Carta, J. J. (1988). *ClassWide Peer Tutoring (CWPT): Programs for spelling, math, and reading*. Seattle, WA: Educational Achievement Systems.

Exhibit 2.3: Reading Comprehension Evaluation Sheet

Reading Comprehension Evaluation Sheet

Name: Pat Smith Level: 9 Date: 10/13/94

This is based on a 1-minute reading session on tutored materials.

Beginning Page: 25 Beginning Word: These

Ending Page: 26 Ending Word: home.

	Poor				Great
Recall	1	2	3	4	5
Sequence	1	2	3	4	5
Vocabulary	1	2	3	4	5
Relevance	1	2	3	4	5
Total Comprehension	1	2	3	4	5

Definitions of Comprehension Question Areas

Recall: Remembering events from the story; factual information such as names of characters, places, and activities that occurred.

Sequence: Remembering the correct order of events happening in the story.

Vocabulary: Using the key words in the story to relate the events that took place.

Relevance: Student uses information pertinent to the passage read.

Total Comprehension: This is a rating based upon all prior questions and student performance related to the passage. It is the average of the 4 items above.

Source: Adapted from Greenwood, C. R., Delquadri, J. C., & Carta, J. J. (1988). *Class Wide Peer Tutoring (CWPT): Programs for spelling, math, and reading.* Seattle, WA: Educational Achievement Systems.

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With the steady data collection, you get a picture of what's happening. If you see a pattern that's not what you want, you make a change. . . . You just don't leave something going on indefinitely without making an intervention. This gives you some very visible, hard evidence that it's time now to make an intervention.

Shirley Trees
Elementary School
Principal

who's already passed, it helps keep the facts in the front of their brain. . . . It keeps everybody much more involved and accountable to help everybody in the room pass the skills. . . . I change partners each week. I think that's important. I know that people have tried it different ways—keeping the same partner for reading peer tutoring for nine weeks or a whole month—but, with my behavior disorder population, I have some students who are pretty tough and one week peer tutoring with them really is enough. Then somebody else needs to try. It's not as easy. You have to encourage them a lot more.

Peggy Kooser
Fifth Grade Teacher

With inclusion and the different types of kids you're getting, Classwide Peer Tutoring *is one of those strategies that you can individualize. If you've got a heterogeneous class, you might have reading levels in your class from second grade to ninth grade. You cannot teach all those kids in one novel, obviously. If you don't want to do ability groups, and right now that's a big no-no, you've got to do something like* Classwide Peer Tutoring, *because you can individualize. You could have two or three novels going, and you could have kids tutoring in different materials, and it would work. They'd all be getting what they needed.*

Ann Lowe
Inclusion Coordinator

As you're circulating in the room awarding bonus points, you're also able to see what children are having problems in what areas. When one child was doing the practice test, I noticed that she basically understood the regrouping but she forgot a step of it, and that's a time that you can address that. So it allows for some individualized instruction, whereas before, if you were in the whole group, you might not have picked up on that particular child [making that mistake].

Debbie Bell
Third Grade Teacher

We've played with it in social studies and science, because those texts are difficult and oftentimes not very well written or easily read. . . . There's certainly the capability in the technique to adapt it to any curriculum area you want to and to provide that kind of focused attention. Kids don't have a lot of persistence in difficult material—even some of the good readers. They want to read the fun stuff. But if it's dry, boring, and you do silent reading, they really don't want to be bothered. It's a way to get them to focus in a more tolerable fashion, rather than the old round-robin, up-and-down-the-row kind of reading where some kids are not reading at all, some kids are way ahead, and probably the only kid who's on task is the one who's turn it is to read aloud right then.

Shirley Trees
Elementary School Principal

Peer Tutoring with Curriculum-Based Measurement

The *Classwide Peer Tutoring* program differs significantly from individual peer tutoring interventions. Such programs, which rely on tutors skilled in a specific content area, are severely limited because "once a tutee has learned the skills from the tutor, the relationship is essentially finished" (Greenwood et al., 1990, p. 196). *CWPT*, on the other hand, is a reciprocal tutoring process, relying on a specific, sequential curriculum that is individualized for each student in the tutoring pair. Teachers can use *CWPT* with a curriculum specifically developed for peer tutoring, or they may adapt an existing curriculum. As the following section describes, Lynn Fuchs' work with public schools in the Nashville area demonstrates how *CWPT* can be used with an existing curriculum. In particular, the approach shows how *CWPT's* effects can be enhanced by extending the peer tutoring methods to a broader curriculum and combining it with curriculum-based measurement (CBM).

On-task behavior is probably the number-one best feature of *Classwide Peer Tutoring*. With the intermediate kids, if you don't have kids on task with a low incidence of behavior problems, you're not teaching anyway. You can be talking all you want, but if they're not with you and focused with you, you're blowing into the wind.

Peggy Kooser
Fifth Grade Teacher

Every two weeks they get a graph and skills profile that shows them how they're doing in every skill, whether it's adding or subtracting or multiplication. They also get one on the applications part that shows them how they're doing in those particular areas, whether it's number counting or problem solving. And I send those home to their parents, and that way their parents are getting an idea of how they're doing on certain concepts.

Debbie Bell
Third Grade Teacher

As described by Fuchs and her colleagues, curriculum-based measurement is

> . . . an alternative assessment method that offers advantages over standardized commercial and teacher-made assessment for measuring student achievement and planning instruction. CBM is designed to index global student proficiency in the annual school curriculum on a routine basis. . . . CBM provides specific, ongoing performance feedback on the yearly grade-level curriculum that is directly relevant to instructional planning and decision making. Teachers can use CBM to determine the adequacy of student progress, to determine whether instructional programs need to be modified, and to formulate strategies for improving the content and format of their instructional programs (Fuchs, Fuchs, & Hamlett, 1989). (Phillips, Hamlett, & Fuchs, 1993, p. 148)

Over the past 2 decades, CBM has been used within special education settings to formatively develop and increase the effectiveness of individual student programs. . . . Whenever progress appears inadequate, the teacher adjusts the program to stimulate better growth. . . . Unfortunately, such a labor intensive, individual focus . . . can be logistically difficult to implement—especially when teachers serve large numbers of students. . . . Over the past 3 years, we have responded to this problem by developing innovative strategies by which teachers can use CBM information more feasibly with large numbers of students. Our goal has been to extend CBM decision-making methods to increase teachers' capacity to use objective, ongoing assessment information to provide more individually responsive, adaptive instructional programs to all students. (Fuchs, Fuchs, Hamlett, Phillips, & Bentz, 1994, pp. 518-519)

One innovative strategy Fuchs has used is linking their classwide CBM with peer tutoring. The prescriptive features of CBM make it an ideal complement to a *Classwide Peer Tutoring* program:

> CBM allows teachers to monitor student progress routinely and modify instructional programs based on performance feedback. Classwide PT is a systematic instructional technique teachers can implement, which is based on the CBM data, so that students receive individualized instruction in specific areas of weakness within a large-group instructional setting. (Phillips, Hamlett, & Fuchs, 1993, p. 149)

Teachers explain how they use Fuchs' peer tutoring/CBM program in their classrooms to teach mathematics computation and applications:

We do peer tutoring every Tuesday and every Thursday, at 11:00, same time every day. They have the same peer tutoring partner for two weeks, so that's four sessions that they work together. And then they will have new partners. Those partners are assigned by the computer. However, if I feel that the combination is not workable I have the freedom to change those around. So far they've worked fine. . . . It's a math program which incorporates both computation and applications. At this point in the program, students take a weekly test every Tuesday. They take two weekly tests—one is for computation; they have 3 minutes in which to complete that. The applications, they have 6 minutes to complete. . . . Applications is where they are applying concepts, rather than just [doing] mathematical computation. They may be given problems to solve. They may have a thermometer that they have to read and write down the correct temperature for. They may have graphs that they have to decipher and then come up with the correct answer. We do that every Tuesday and how well they do on those tests helps to determine what areas they'll be working on in peer tutoring.

Debbie Bell
Third Grade Teacher

Peer tutoring is a good way for children to learn. I think it builds the basic skills of computation. We're also going to do the application, which is much more difficult for the younger children. It is a drill, it is a practice, and there is a lot of repetition. But I don't think that's bad, and I think these children benefit from repetition. The children that I teach need to be reinforced, they need to have that repetition over and over and over and they finally get it. If you're just introducing something to my class and then leave it and you come back six weeks later, with the type of child that I'm teaching, [they will respond with] "What are you talking about?" But the repetition, doing it every week and having those little practice sheets every week, just builds, builds, builds, until they become faster and better. They know their basic skills, and they can compute.

Cathy Graf
Third Grade Teacher

The way training is arranged, we talk about evaluation first, and then we ask them to collect baseline data. We try to space two weeks between the training sessions so they have time to collect baseline. With a lot of the teachers, we go out with them and do one baseline check for reliability. Then there's the second training session, then the training in the classroom with the teacher, then the observation, and then the data sharing session. So it's a real follow-through type of thing.

Ann Lowe
Inclusion Coordinator

Implementing *CWPT*

Greenwood and his colleagues divide their *CWPT* into a preparatory phase and an implementation phase:

> The "preparatory" period is called *baseline* and the "implementation" period is called the *full program*. The activities completed during baseline include: (1) reading the manual, (2) developing content material lists for spelling and math, (3) establishing regular Friday pretests and posttests and reading rate checks, and (4) recording students' baseline scores. The full program phase includes: (1) teaching students their tutoring roles, (2) practicing the tutor and tutee roles, and (3) implementing CWPT during daily tutoring sessions. (Greenwood, Delquadri, & Carta, 1988, p. 7)

Although their *CWPT* manual provides step-by-step instructions for implementing the program, teachers will benefit from training that

includes follow-up support. An experienced *CWPT* trainer from a district in Kansas describes the training model she employs:

The training is pretty minimal. We do two 2-hour sessions and that seems to be plenty. You need to hear the rationale, to talk about "why." You need to know the philosophy—as much as teachers don't like to hear it, it needs to be heard. And you need to see how it looks. It's really nice to simulate it with the teachers in the training. After training, we do data sharing sessions twice a year. What makes peer tutoring work, though, is the follow through. [That is, first] we're going to train you in it. Then we're going to go into your room and help you implement it so it's done right and you feel comfortable, because it's really scary to do something new in your classroom, especially something like this where you're organizing the whole class. So we'll come in and we'll train individually in classrooms. Then, a week after, we come in and do an observation. If the implementation isn't good, we schedule another observation as needed. . . . We started doing a refresher course at the beginning of the year for reimplementers—kind of like a rah-rah session. We didn't want the integrity of it to be lost, so we talk about things like retraining your kids on error correction procedures or using an idea from another classroom that works.

Ann Lowe
Inclusion Coordinator

When school-based educators describe how they learned peer tutoring, they emphasize the hands-on training and the follow-up consultation:

We had it modeled to us initially and then we actually took part in it at the workshop. They had some really difficult spelling words and a fun story about teachers that they did reading peer tutoring on. It was real enjoyable, the way they presented it. For those who wanted to go back and try it in their classrooms, we had two district experts who, if you didn't feel comfortable getting it started in your classroom, would come in and do the first session or two with your students. So you would observe again so you would have some additional time to get ready and to learn. Or you would try it and they would

It's low profile, low risk. If it doesn't work, you can adjust it pretty easily. When you have 10 or 12 teachers in the building who are doing it, there are a lot of people to tap and say, "My kids are doing thus-and-so; have you had this problem?" They do that on a regular basis.

Shirley Trees
Elementary School
Principal

observe. We also had a building person who was very comfortable with it and you could go in and watch her do it with her classroom.

Peggy Kooser
Fifth Grade Teacher

The training takes a couple of sessions, typically after school—two hours each—then some follow-up. An itinerant teacher provides troubleshooting, ongoing help, makes visits to folks as they're doing it. . . . We also have folks in this school who go into each other's classrooms and watch on an informal basis. . . . The initial training investment is under six hours.

Shirley Trees
Elementary School Principal

[Vanderbilt] provided training sessions and we actually did the hands-on activity—we were involved in learning how to do it by doing it ourselves. So that made it easier for us, and then when we came back to train the students we knew some of the problems that they might run into, that they might encounter. So it was easy for us to offer suggestions as to how they could overcome that.

Debbie Bell
Third Grade Teacher

[I learned by going] to an inservice day, an all-day-long training session at Vanderbilt University. Then they came out and observed and worked with me. They came into the room and observed and listened when I presented to make sure I was doing everything correctly and to help me. We modeled for the children how to do it. All through the year they come frequently, and they gave me a phone number.

Cathy Graf
Third Grade Teacher

It probably was a couple of months before it felt real comfortable doing it with the kids. I just told the kids, "This is new, so it's not real comfortable. I've never done this before. Let's try this together." It took me a couple of months to figure out the kinks. . . . It takes a couple of months for the kids to really learn the routine and to understand the charts.

Peggy Kooser
Fifth Grade Teacher

Testimonials of Effectiveness

Researchers have tested *CWPT* extensively and accumulated much empirical data supporting its effectiveness. The Research Support section later in this chapter summarizes that evidence. Below, teachers and administrators describe *CWPT*'s value in the classroom:

I'm sold on it because I can see measurable improvements. There are a lot of things we do where you might know the improvement in a gut kind of way, but when you can know and see it and have it be measurable—that's terrific.

Shirley Trees
Elementary School Principal

I have several ESL students. They can do the math [and] . . . by having to read the questions and explain to the other children what they're doing, that gives them a chance to use the English language as well. So you're reinforcing their English skills in addition to their math skills. And it makes them feel a part of the class because for so much of the language activities it's hard for them to understand—this is something that's easier for them to do. They can feel like they're participating fully.

Debbie Bell
Third Grade Teacher

I have seen dramatic results with my learning disabled children on the peer tutoring. I think they do a beautiful job. . . . I think it has been a great boost to their self-esteem and to feeling like they have some control, that they're teaching each other. They just love the points—there's really no tangible reward. It's just, "Yeah, you did a good job, you can pick up the folders"—but they enjoy that. . . . When I introduce new skills, the students are more willing to learn it, the LD children included. . . . The curriculum-based measurement helps me and it also helps the children to see, because they get something in their hand—the graphs and skills profile chart. They actually see their scores going up from week to week to week. Sometimes it takes a long time, but all children in the past two years have made progress. And they love it. . . . They know they're improving and they know that they're learning—

For parents who are concerned about slower kids holding back their smart children, the evidence says this is not what's occurring. Your child is reading in grade level material that's appropriate for him. Kids have their own rate and their own material and they're paired together to make individual progress by being mutually supportive.

Shirley Trees
Elementary School Principal

It's a good way for children to learn to work together and to get to know each other, because a lot of times they may stay with their friends rather than make any effort to become friends with new children in the classroom. So that's worked well.

Debbie Bell
Third Grade Teacher

I have other children who have had behavior problems with talking out, or shouting out, that somebody might label ADD. With academics they're doing fine. They do have a problem with behavior, but when we're doing the peer tutoring they do a good job with that.

Cathy Graf
Third Grade Teacher

they really know they're learning. And for me, I get a teacher's report and I can see right off the bat what child is still having trouble with regrouping, for instance, and I can work individually or with a small group to build them up and get them up to par. It's a quick way, it's good management for me because it's harder for me if I'm going through scores of papers. It's just a lot easier—the management part of it is really easy.

Cathy Graf
Third Grade Teacher

The percentage of on-task time by students is increased immensely with Classwide Peer Tutoring *because they're all responsible to a partner. Whether it's an adult partner or a student partner, they all have to be on task or else they don't get done what they need to do. I find fewer behavior problems during that time because there's so much more on-task behavior. You know that they're getting much more learning accomplished because everyone is actively involved.*

Peggy Kooser
Fifth Grade Teacher

It's amazing to me. I've never found anything else that if you do it right you're going to get the results—guaranteed. But if you don't, your graphs aren't going to look right. So now, if I see a graph that doesn't look right, I know that teacher's not doing it right.

Ann Lowe
Inclusion Coordinator

Classwide Peer Tutoring and Students with ADD

According to educators with experience with *CWPT*, the program is effective with students with ADD:

As far as the ADD children, learning disabled children, and behavior disordered children, I think that it's a good source. The students have guidelines to follow. There are certain things they are required to do. They need to know how to sit with somebody, and they need to know how to work

with somebody else. I think this is good for all children. For children who have problems with behavior, I think this is wonderful. We do have a lot of children in this population in our school who have trouble getting along with others. They love guidelines. They need that. They need some structure. . . . There are some freedoms, and they're talking, but it really is a structured thing. . . . And they need this structure and they need this drill.

Cathy Graf
Third Grade Teacher

[For students with attention deficits] it is a godsend, simply because it focuses them. . . . It helps define a structure and a focus for kids who have difficulty doing that. Attention deficit children need less clutter and more overt structure in their programming. It allows them to respond. It keeps them involved in a very concentrated way. Everything is focused. The mind doesn't have the same opportunity to wander that it does even in a group of six. During the peer tutoring time they're either reading or marking—they're responsible for physically doing something the whole time.

Shirley Trees
Elementary School Principal

[I have a child this year] who is LD and ADHD, and it's working well—he's able to stay on task and I think he enjoys it because that's something he can do with the class as a whole. . . . It really helps with social interaction. And since he is out of the class a lot of the time, this is a time for him to be a social person.

Debbie Bell
Third Grade Teacher

I think all kids need good teaching—if you're ADHD, if you're LD, if you're gifted, if you're average—that's what you need, and that's what this is. . . . And for the kids who really should be identified as ADHD, I think that it's the greatest thing for them because it's active—they're involved and that's what those kids want to be.

Ann Lowe
Inclusion Coordinator

Some Limitations

CWPT has focused traditionally on practicing basic facts (primarily math facts, spelling words, and sight word lists) or basic operations (such as math computation and oral reading fluency), as opposed to learning higher-order skills. As Greenwood et al. (1990) report:

> Tutoring also has some of the same drawbacks that have been identified for other effective practices. Foremost among these is its limited use in teaching higher-level conceptual skills. While some studies have documented the success of tutoring for improving reading comprehension . . . most of the evidence for its effectiveness has been based on the acquisition of rote skills such as oral reading, spelling words, reading rate, mathematics facts, and vocabulary. (p. 188)

Recent research and development, however, have focused on using peer tutoring to teach higher-order skills. For example, Fuchs and colleagues have extended their peer tutoring program to include instruction in math applications.

School-based educators describe some limitations they have found with *CWPT*:

It's a weird feeling at first because as teachers we're so used to feeling that we need to give information out to students. So you let the reins go and you have to let the kids be in charge of helping each other. After a while of seeing the results, you know that that's what's happening.

Peggy Kooser
Fifth Grade Teacher

Just philosophically I have some concern about whether or not competition is a necessary or required component in order for it to be successful. We have classes that do it both ways, and I like that we don't see a difference. What I want kids to get is the notion of personal improvement, continuous progress individually—and not worry so much about what somebody across the room has done or what a whole team has done.

Shirley Trees
Elementary School Principal

I have 28-29 students. I have a special needs child who is in our classroom four hours a day. The problem I have found is that with this number of children it's more difficult to get them on task as quick. It's more time consuming. Also, last year I was able to do the peer tutoring and then also have directed teaching math time. This year I've not been able to do that because it is taking us longer, so what I'm doing is peer tutoring two days a week at this point and directed teaching three days a week. And to me, I need to do more directed teaching. So I'm hoping that as they become more accustomed to the program we're going to move through it more quickly and allow for more directed teaching.

Debbie Bell
Third Grade Teacher

Research Support

Research support for *Classwide Peer Tutoring* is broad. Although only one single-subject study (DuPaul & Henningson, 1993) has focused specifically on a student with ADD, various researchers using experimental designs have demonstrated the positive effects of *CWPT* with diverse populations of students. In a large-scale longitudinal study, long-term use of *CWPT* proved effective in increasing academic engagement and achievement for students of low socioeconomic status (SES), and continued to produce measurable benefits two years following termination of the intervention (Greenwood, 1991; Greenwood et al., 1989; Greenwood et al., 1993). In a study of mainstreamed students with autism and learning disabilities, *CWPT* increased reading fluency and comprehension for disabled and nondisabled students in the classroom and improved social interaction among the students with and without disabilities (Kamps et al., 1994). Researchers have also demonstrated the utility of CWPT for spelling instruction with Chapter 1 elementary students (Maheady & Harper, 1987), science instruction with elementary students with learning disabilities (Pomerantz, Windell, & Smith, 1994), and social studies instruction with secondary students with learning disabilities (Maheady, Sacca, & Harper, 1988). Combining *CWPT* (which is itself a data-based instructional program) with the data-based decisionmaking processes of curriculum-based measurement is particularly promising. This combination has demonstrated positive results with math instruction in general education classrooms (Phillips et al., 1993). Exhibit 2.4 highlights key features of selected recent studies of *CWPT*.

Contact for More Information

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Exhibit 2.4: Selected Research Supporting *Classwide Peer Tutoring (CWPT)*

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
DuPaul & Henningson	1993	Regular classroom	1 student (ADD)	7	2
Greenwood[1]	1991	Longitudinal study, regular classroom	69 teachers (grades 1-3); 416 students at study beginning; 241 students at end of grade 3	7 — 6-9 (at study beginning)	1-3 (over the course of the study)
Greenwood, Delquadri, & Hall[1]	1989	Longitudinal study, regular classroom	94 teachers (grades 1-4); 416 students at study beginning; 182 students at end of grade 4	7 — 6-9 (at study beginning)	1-4 (over the course of the study)
Greenwood, Terry, Utley, Montagna, & Walker[1]	1993	Longitudinal study, regular classroom	94 teachers (grades 1-4); 416 students at study beginning; 303 students at grade 6 follow-up	12 — 11-14	6

[1] This study addresses specific components or phases of a longitudinal study.

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
CWPT	ADHD behaviors, math skills	Single-subject	*CWPT* decreased ADHD behaviors and increased time on-task; number of math problems completed correctly also increased
CWPT (in spelling, mathematics, and reading), traditional instruction, SES	Instructional time, engaged time, academic achievement	Group, longi-tudinal	*CWPT* resulted in increased academic engagement and achievement for low-SES students compared with low-SES controls
CWPT (in spelling, mathematics, and reading), traditional instruction, SES	Classroom ecology, student behavior, teacher behavior, and academic achievement	Group, longi-tudinal	*CWPT* resulted in more academic-oriented behavior; low-SES *CWPT* group scored significantly higher than controls on achievement tests in language, reading, and math
CWPT (in spelling, mathematics, and reading), traditional instruction, SES	Retention, special education placement, types of special services, academic achievement	Group, longi-tudinal	Compared with controls 2 years following end of intervention, students in the *CWPT* group had lower special education placement rates, received less restrictive special services, and maintained significant advantage in academic achievement (although magnitude of advantage declined)

(continued)

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Exhibit 2.4: Selected Research Supporting *CWPT* (continued)

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Kamps, Barbetta, Leonard, & Delquadri	1994	Regular classroom	17 elementary students (3 with autism, 6 with LD, 8 nondisabled)	c. 8	2-3
Maheady, Sacca, & Harper	1988	Regular classroom	50 students (14 with LD or BD)	16 / 15-18	10
Phillips, Hamlett, Fuchs, & Fuchs	1993	Regular classroom	40 teachers with at least 1 LD student each; 3 students from each class tested (pre and post)	N/A	2-5

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
CWPT, traditional reading instruction	Reading rate and errors, reading comprehension, social interaction	Single-subject	For majority of students (including those with autism or LD), *CWPT* increased reading fluency and comprehension; *CWPT* also increased social interaction during free-time activities
CWPT, traditional social studies instruction	Social studies content	Single-subject	*CWPT* resulted in immediate increases in scores on social studies tests for students with and without disabilities
Curriculum-based measurement (CBM) and peer tutoring (PT)	Math skills	Group	CBM plus PT significantly improved math skills scores

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Chapter Three

Early Literacy Program

The **Early Literacy Program** *allows children to take control of their own learning. You're teaching them how to learn versus giving them information. You teach them the terminology so they can use it on their own. You show them and you talk to them about how what they are doing now will apply when they're in high school, in college, or in life. You're trying to get to the point that they see things are connected—so that they can do it on their own.*

Kris Bobo
Self-Contained Special Education Teacher
(Lower Elementary)

The whole program is a way of learning how to think. That's the way I look at the program. I see the activities as just a way to get the kids to do the kind of things that good readers do and good writers do. It's giving them an agenda to follow. The activities in and of themselves aren't the program. It's just a way of getting them to think about what good readers do when they read and write.

Judy Paulsen
Self-Contained Special EducationTeacher (K-4)

The Purpose

The *Early Literacy Program (ELP)* curriculum promotes students' metacognitive awareness of themselves as readers and writers, and promotes students' abilities to self-regulate literacy performance (Englert, Rozendal, & Mariage [in press]). *ELP* grew out of weekly team meetings in which researchers from Michigan State University, led by Carol Sue Englert, and special education teachers from five urban elementary schools discussed the literacy needs of their students (Englert, Raphael, & Mariage, 1994). Discussions centered on identifying appropriate activities that would support four literacy principles based on a sociocultural perspective of learning (first articulated in Englert & Palencsar, 1991):

- Literacy instruction must be embedded in meaningful and purposive activities;
- Instruction should be responsive to the needs, capabilities, and interests of learners, and should reflect their zones of proximal development;
- Instruction should promote self-regulated learning; and
- Instruction should be designed to foster students' membership in a literacy community.

The Activities

In describing *ELP* in practice, Englert and her colleagues (Englert, Rozendal, & Mariage, in press) delineate the activities that have become an integral part of the program:

> The teacher and her students engaged in a number of literacy activities during the year. All of the reading and writing activities were interrelated in thematic units that emphasized various expository topics (e.g., animals). As part of the

thematic units, the focus teacher . . . taught her students to brainstorm ideas; organize ideas into maps or webs; gather related ideas from expository or narrative texts and revise their maps; read, comprehend, and monitor texts; and use their maps to write, monitor, revise, and publish expository reports using comprehension-monitoring and editing strategies. The teacher also developed students' reading and writing abilities by having her students chorally read stories related to the unit, respond to expository and narrative texts related to the unit, and make public their reading and writing performance in the sharing chair and author's center. In this way, literacy activities involved multiple forms of oral and written literacy. Reading and writing activities were designed to support and extend students' literacy opportunities within the thematic units. The specific curricular activities included: (a) choral reading of poems, predictable texts, and other texts related to the thematic units, (b) silent sustained reading, (c) partner reading/writing, (d) sharing chair, (e) morning news, (f) author's center, and (g) story response. (p. 7)

All [teachers using *ELP*] do something different. It's all developed in a different way. I think it developed according to the kinds of kids we have and our own style of teaching . . . . We all put our own things into it and then we come and share ideas. It's just grown from that.

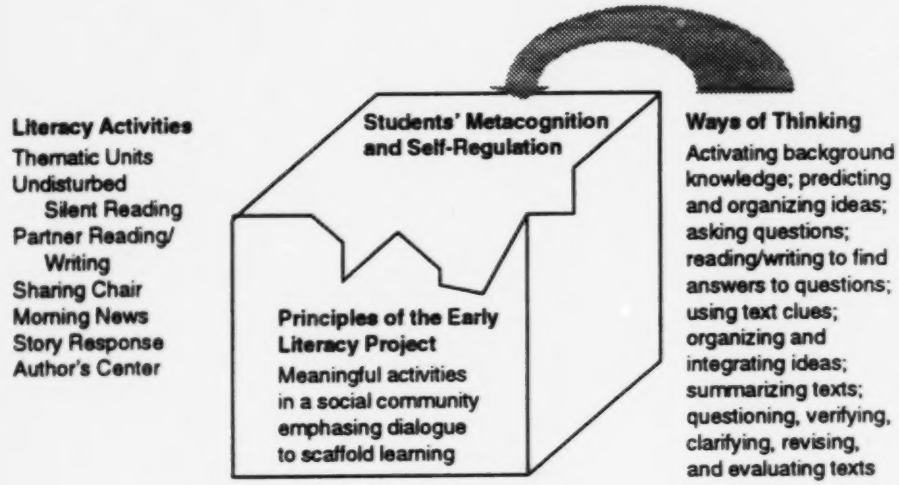
Kris Bobo
Self-Contained Special Education Teacher (Lower Elementary)

Exhibit 3.1 ties together the philosophy and activities of *ELP*, and Exhibit 3.2 provides an overview of *ELP* activities. (See Englert, Raphael, and Mariage [1994] for citations for the various researchers involved in the development and testing of these activities.) Teachers provide additional insights regarding the day-to-day enterprise of *ELP*:

[ELP] isn't a whole language program. It looks like a whole language program sometimes because of some of the activities, but the philosophy behind it is much different from whole language . . . . There wouldn't be the strategies teaching, and that's what the entire program is built on—teaching them those strategies about how to think about reading, and what readers do, and what writers do so that they're able to talk about it and pick up and do those things on their own . . . . You need to plan what you want them [to learn]. It can't be just their own learning taking place and whatever takes

(continued on page 41)

Exhibit 3.1: Knowledge Under Construction


Literacy Activities
Thematic Units
Undisturbed Silent Reading
Partner Reading/ Writing
Sharing Chair
Morning News
Story Response
Author's Center
Students' Metacognition and Self-Regulation
Principles of the Early Literacy Project
Meaningful activities in a social community emphasing dialogue to scaffold learning
Ways of Thinking
Activating background knowledge; predicting and organizing ideas; asking questions; reading/writing to find answers to questions; using text clues; organizing and integrating ideas; summarizing texts; questioning, verifying, clarifying, revising, and evaluating texts

Source: Englert, C. S., Rozendal, M. S., & Mariage, M. (in press). Fostering the search for understanding: A teacher's strategies for leading cognitive development in zones of proximal development. *Learning Disability Quarterly.*

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place takes place, whatever doesn't doesn't. It is much more strategic than that, and it's developmental . . . . None of the ideas are new. Partner reading's been around, choral reading's been around, process writing's been around—it's the way it's presented, where it is very structured, and it becomes a comprehensive program.

Judy Paulsen
Self-Contained Special Education Teacher (K-4)

[Students publicize their reading] through author's chair, and they read their journals, and they can sign up to read a book to the class but they have to first read the book to me without more than two errors. They know that if they have it down pat so they can read every word without being choppy the kids will be interested in the book. If they just go up there and read words, the kids aren't interested. It's important for others to hear them and respond also, because . . . when you read it to a group of kids and they understand and they're excited about it, it makes you want to read better.

Terri Wright
Self-Contained Special Education Teacher
(Upper Elementary)

ELP with Nonreaders

Englert, Raphael, and Mariage (1994) describe how *ELP* has addressed the challenge of teaching "preconventional" readers:

> The goal of involving students in reading and writing connected texts, however, presented an instructional dilemma since many students were not conventional readers and writers. Teachers had to find ways to involve all students in reading and writing texts—even students who lacked the performative abilities to do so independently. This meant that teachers had to find novel ways to permit "performance before competence" (Cazden, 1981) by modifying literacy tasks, and by providing scaffolds that would allow their

The reading portion is for emergent readers who just can't seem to learn from the basals that are traditionally used. I see *ELP* as a way to get them to enjoy reading . . . . It's fun activities used in teaching reading – repetitive readings, rhyming, rhythms. There are just so many components.

Terri Wright
Self-Contained Special Education Teacher
(Upper Elementary)

(continued on page 44)

Exhibit 3.2: Activities that Form the *ELP* Curriculum

Activity	Description	Purpose
Thematic Unit	• Teacher and students brainstorm, organize, write drafts, read texts, or interview people to get additional information about a topic or theme from multiple sources, and use reading/writing strategies flexibly to develop and communicate their knowledge. • Oral/written literacy connections are made apparent.	Model learning; introduce literacy language, genres and strategies; model reading/writing processes and connections; provide interrelated and meaningful contexts for acquisition and application of literacy knowledge; conventionalize and develop shared knowledge about the purpose, meaning, and self-regulation of literacy acts.
Undisturbed Silent Reading	• Independent reading. • Reading to an adult. • Listening to new story at listening center.	Work on fluency for author's chair; provide experience with varied genres.
Partner Reading/ Writing	• Choral reading and taped story reading. • Partner reading and partner writing.	Provide opportunities for students to fluently read and write connected texts; provide opportunities for students to use literacy language and knowledge; develop reading/writing vocabulary and enjoyment of reading.
Sharing Chair	• Read books, poems, personal writing. • Students control discourse and support each other. • Students ask questions, answer questions and act as informants to peers and teacher.	Promote reading/writing connection; empower students as members of the community; allow students to make public their literacy knowledge and performance; develop shared knowledge.

Activity	Description	Purpose
Morning News	• Students dictate personal experience stories. • Teacher acts as a scribe in recording ideas, and as a coach in modeling, guiding, and prompting literacy strategies.	Model and conventionalize writing and self-monitoring strategies; demonstrate writing conventions; provide additional reading and comprehension experiences; make connections between oral and written texts; promote sense of community; empower students; provide meaningful and purposeful contexts for literacy strategies.
Story Response/ Discussion	• Students read stories and respond to those stories in various ways (e.g., sequence stories, illustrate story events, map story events or information, summarize story, etc.). • Students work with partners or small groups to develop response.	Promote students' application of literacy strategies; present varied genres to students; promote students' ownership of the discourse about texts; further students' enjoyment of texts; make text structures visible to students.
Author's Center	• Process writing approach (students plan, organize, draft, edit texts). • Student partners write and work collaboratively to brainstorm ideas, gather additional information, write drafts, share their drafts, receive questions, and write final draft. • Students use literacy strategies modeled in thematic center.	Develop sense of community; develop shared knowledge; provide opportunities for students to rehearse literacy strategies; empower students in the appropriation and transformation of strategies.

Source: Adapted from Englert, C. S., Raphael, T. E., & Mariage, T. V. (1994). Developing a school-based discourse for literacy learning: A principled search for understanding. *Learning Disability Quarterly, 17*, 2-32.

When I evaluated [a special education teacher who was using *ELP*] . . . I found it so interesting that I had a hard time writing things down because I really got involved with the students and watching what they were doing.

Patricia Rose
Elementary School
Principal

students to engage in reading and writing in advance of proficient performance. In the process, they found each individual student's entry point into the world of literacy—his or her zones of proximal development (ZPDs)—in order to gradually move their preconventional readers and writers into the realm of conventional literacy (Rozendal, Englert, & Mariage, 1992). Teachers' acceptance of students' preconventional literacy behaviors created one window of opportunity that led students to more advanced development. For example, one teacher allowed her preconventional reader to participate in author's chair by "reading" a wordless picture book (Rozendal et al., 1992). To increase the reading opportunities of other students who were dysfluent, students were paired with "buddies" for "partner reading." Together the student and his or her buddy orally read a story, taking turns listening to and helping each other . . . . Through the support of their partners, students read stories and developed their sense of story structure and comprehension strategies, while simultaneously developing basic performative abilities (e.g., fluency and decoding) . . . . [In sharing chair,] students could select a "peer helper" to stand behind them to whisper the identities of unknown words. For many students, these were the first opportunities for them to publicly share their enjoyment of texts and proudly display their newly developing reading abilities. In fact, many of the preconventional readers were the most enthusiastic about the opportunity to participate in the sharing chair, and this activity was highly motivating to students . . . . Gradually, teachers led their students' literacy development by "upping the ante." They encouraged students to assume increasing responsibility for cognitive processes. (pp. 5-6)

Impact on Teachers

ELP has changed teachers' attitudes toward teaching, as well as the way they teach. Practitioners describe this impact best:

In my room, I shut the door half the time because we get so loud—but it's on task . . . . I don't expect them to just sit and do what they're supposed to do at their desk. They can ask a friend for help. I think that's great. In fact, if they don't ask a friend for help before coming to me, I don't answer them. They need to look at other resources besides the teacher.

Terri Wright
Self-Contained Special Education Teacher
(Upper Elementary)

Some of the programs that I've used before were mastery learning where you didn't have any risks. You kept practicing it and practicing it until you mastered it. They learned things that were small parts of [other] things. They did fit into a whole, but never in the kids' minds because they never got that far.

Judy Paulsen
Self-Contained Special Education Teacher (K-4)

It's very teacher directed, which is good. It matched a need and it incorporated a lot of the qualities I like in teachers—teacher participation, modeling, [being] very actively involved in the instruction, being able to have cooperative dialogues going on with the students.

Edna Felmlee
Language Arts Consultant
Department of Special Education

Discipline is important, but if you don't have effective teaching strategies to go along with that discipline, the discipline is going to be about impossible because you don't have anything for the kids to do. So you have to have some effective teaching strategies to meld with discipline strategies—no matter what type of kids you're dealing with, no matter what type of program it is.

Patricia Rose
Elementary School Principal

It would be really hard to do this program without people to talk to. I don't think it has to be with someone who is trained in this particularly. It's just support so as you try new things you've got some people to bounce ideas off of. The ideas will blossom lots faster than if you're just trying the ideas yourself.

Kris Bobo
Self-Contained Special Education Teacher
(Lower Elementary)

Implementing *ELP*

Teachers can be introduced to *ELP* in a half-day workshop, but developing skills that lead to effective implementation of the program requires an additional investment of time although *ELP* requires less planning for lessons than traditional instruction, teachers find that learning to effectively conduct the various *ELP* activities requires considerable preparation and practice. So teachers who change from a traditional reading and writing program report that, initially, *ELP* is a lot of work. Once they have developed the skills to conduct the activities, *ELP* requires less planning than traditional approaches.

To promote development of teaching skills needed to implement *ELP*, practitioners recommend a teacher support group. A network of teachers, across schools, provides emotional support and facilitates learning of new skills. Teachers share what has or has not worked, problem-solve difficulties they face, and explore emerging issues.

Testimonials of Effectiveness

Practitioners praise *ELP* for the results it produces with students with disabilities:

[With regard to students with special needs, I see ELP*] helping students to focus, helping students to become attentive listeners to each other as well as to a teacher, helping students to be able to use those questioning skills that they're developing and interact with each other . . . . The writing is really crucial, and we see students who are certainly doing more writing, and effectively. Along with that, as students interact with each other more academically, you see that effect grow, you see the respect grow, and part of that too brings in the problem-solving skills—not only academic problem-solving, but problem-solving in dealing with each other.*

Patricia Rose
Elementary School Principal

It's good not just for the low kids, it's good for the extremely high and gifted kids too. Everybody gets something out of it at their own level.

Terri Wright
Self-Contained Special Education Teacher (Upper Elementary)

My kids are interested in learning; they enjoy writing, which is just a miracle. They love books. I know their reading level is gaining . . . . And we have kids who are making it in [mainstream classes] for writing. In the past, you would never have had special ed students who have trouble with reading and language arts mainstreamed for writing.

Kris Bobo
Self-Contained Special Education Teacher
(Lower Elementary)

I think [that] by going to ELP, *I have given [students with learning disabilities] the opportunity to be mainstreamed. I think if I were still working in the traditional program, the kids would be special ed forever. The traditional program just stifles them. They aren't really learning, they're just going through the motions. Whereas, with this, they can do anything. When we do thematic units, these kids know how to research . . . I see differences in their journals, I see it in their spelling sentences, I see it in their enjoyment in reading . . . . They really enjoy writing, they're not afraid of it any more . . . . Reading scores in my class jumped two grade levels last year. In writing, they're organizing. It's not just a bunch of sentences about any old thing—if they're doing it on animals, it's a paragraph about what the animal eats, a whole paragraph on that, a paragraph on what it looks like, a paragraph on where it lives—it's more organized.*

Terri Wright
Self-Contained Special Education Teacher
(Upper Elementary)

I think teachers in special education [in our district] have been very strong in teaching reading because we spend a lot of time and energy teaching them a structured phonics program . . . . But we were particularly weak with written language. That still was an area where we weren't meeting their needs. [ELP] *seemed to be able to do both—to stimulate reading but especially writing.*

Edna Felmlee
Language Arts Consultant
Department of Special Education

I never thought my kids could work cooperatively, but when they're doing math I let them sit next to each other and they're talking about what they're doing. I may hear their voices getting a little loud, but most times they're discussing and arguing over an answer—how can that be bad?

Kris Bobo
Self-Contained Special Education Teacher
(Lower Elementary)

When you have a specific structured program that you're following, you see specific gains—whether they're skills or whatever—you see them moving from this point to this point. [With ELP,] it's not so clear that they're moving from this point to this point . . . and it's not real quick. But the kinds of gains and breakthroughs that they make are much more significant and much more valuable than watching someone moving from this lesson to this lesson.

Judy Paulsen
Self-Contained Special Education Teacher (K-4)

[ELP] is high interest, high buy-in by our special education students and our students who have trouble focusing . . . . It's a program that people can really use effectively.

Patricia Rose
Elementary School Principal

ELP was developed and tested in special education classes. Recently, the program has moved into general education classrooms. Practitioners testify to *ELP*'s promise for general education students.

It's excellent for special ed, it's outstanding for special ed, but I certainly see that there are a lot of components of it that can be used in a large and a small group situation in the classroom, no matter what the level . . . . When I first observed ELP *in the [self-contained special education classrooms] I would have said I'm not sure it's going to be useful for a large, full general education classroom setting. But I observed a [general education] classroom last Friday, and it was extremely effective. The students were active, buying into it, were very attentive, and seemed to be enjoying what they were doing.*

Patricia Rose
Elementary School Principal

When I evaluate students who are referred for learning disabilities, almost none of them can write . . . . They cannot take a stimulus and write a short paragraph. When I see students who are certified LD who can do that now [after ELP*], I think general ed should be doing this.*

Edna Felmlee
Language Arts Consultant
Department of Special Education

ELP and Students with ADD

ELP is an intervention likely to be effective for students with ADD. As Exhibit 3.3 outlines, many features of *ELP* hold promise for developing or increasing the literacy skills of students with ADD. Practitioners testify to its effectiveness with this population:

One of my kids with ADD had severe behavior problems. He would make noises, try to get the other kids off task, just the little behaviors that drive you crazy. In morning message I used to have him right up front with me. I thought being up front would be the best thing, but what it did was give him the opportunity to turn around and get all the kids upset. So I put him in the back, and the kids were not paying attention to him. Then he started slowly to participate more appropriately. ELP *worked for him.*

Terri Wright
Self-Contained Special Education Teacher
(Upper Elementary)

Sometimes the kid will just need to walk back and forth, and now he can do that without being in trouble. He can walk over and ask something or he can walk over and talk to someone about his work, get that out of his system, go back and do some more work. So I think it really helps.

Kris Bobo
Self-Contained Special Education Teacher
(Lower Elementary)

The kids [with ADD] tend to have a lot more difficulty in the large group activities. They do better in the smaller groups. You have to take a lot into consideration about who you're grouping them with and those kinds of things. You really do have to look at some of their own behavioral characteristics . . . . [With students with ADD,] ELP *is a lot more pleasant and a lot less confrontational than when they had work to do and they didn't want to do their work. They're very happy to come to class.*

Judy Paulsen
Contained Special Education Teacher (K-4)

I don't think school should have to be a place to be quiet. I don't think quiet means learning, I think talking together means learning. What I'm telling the kids is that they can learn in spite of the fact that they can't sit still, in spite of the fact that they have a hard time concentrating on things . . . . We're not in school to teach kids to sit still and be quiet.

Kris Bobo
Self-Contained Special Education Teacher
(Lower Elementary)

(continued on page 51)

Exhibit 3.3: *ELP* Features That Are Potentially Beneficial to Students with ADD

- Interactive formats and active responding, including frequent opportunities to talk, sustain student engagement
- In group activities, students receive immediate feedback and reinforcement for on-task behavior
- Instruction on distinguishing essential and nonessential information in reading, listening, and writing enhances selective attention
- Accountability and rewards for reading, listening to, and comprehending lengthier discourse teach attention in context
- Tasks that require sustained mental effort and that are continued across time strengthen sustained attention
- Continual revisiting of concepts accommodates students' varied developmental levels and provides multiple opportunities for learning
- Visual cues such as mapping help students see relationships and distinguish relevant information
- Emphasis on advance planning and organization reduces impulsive responding
- Insistence on attention-to-task and making contributions reinforces these behaviors as part of community-building
- Emphasis on students' roles and responsibilities in group situations, including awaiting turn and listening, promotes acceptance by peers.

Carol Sue Englert
Michigan State University

We've had a couple of truly ADD kids [in ELP]. In the beginning it was awful because they could not even sit for a couple minutes during author's chair or to participate in a morning message. [With one child, the teacher made] that child the one with the pointer, or she was able to give him certain little responsibilities. It got so that each time he could sit longer and longer or participate in a better fashion until, during this structured time, it was hard to tell any more that he was ADD. His writing became very good.

Edna Felmlee
Language Arts Consultant
Department of Special Education

A student who is severe ADD [with other disabilities] came here in the self-contained special education classroom. He had bizarre acting out behaviors. He couldn't sit . . . . It wasn't all ELP, but I saw him go from a kid who was introspective and so tight—looking down at his arms and never looking up—to a child who started contributing occasionally. Then he started asking very simple questions. It was exciting to watch it happen with this kid. When he came . . . they had talked about institutional care for him. When he left here, he left as an unbelievable student.

Patricia Rose
Elementary School Principal

Some Limitations

Practitioners identify factors that educators should consider before trying *ELP*. Mainly, teachers must be willing to adapt their teaching approach and to invest the time and energy necessary to learn to implement the program successfully:

I think a teacher has to be comfortable using it, because if a teacher is not, it's not going to be effective and it's not going to be a useful program. If we have a teacher, however, who's not comfortable with it, I'd just as soon they not bring it in if it's going to disrupt their reading program.

Patricia Rose
Elementary School Principal

It's not always wonderful. There are days that I've stopped morning message and said, "I just can't do it right now, we aren't ready, let's do something else."

Terri Wright
Self-Contained Special Education Teacher
(Upper Elementary)

Not every teacher would allow the talking out and the dialoguing to go on—be they special education or general education . . . . If I were teaching this program, I would do a little bit more actual teaching of the content of writing, very much like [a phonics program].

Edna Felmlee
Language Arts Consultant
Department of Special Education

It's very difficult for most of these students to do. It takes an awful lot of work, it takes a lot of planning, it takes a lot of role playing, it takes a lot of really spelling things out for them. And it doesn't happen right away. It evolves over a long, long period of time—it's nothing immediate that you see . . . . It takes at least a year before they learn how to operate within all of these different activities.

Judy Paulsen
Self-Contained Special Education Teacher (K-4)

[In a large group doing morning message,] you certainly aren't going to get the participation from everyone. But if within that activity you're reviewing [grammatical and editing rules], they may not be actually participating, but hopefully as the different kinds of editing are repeated over and over again, they're going to start getting it. That's at least the goal . . . . You can do lots of repetition with morning message without it becoming boring, because it always has purpose.

Kris Bobo
Self-Contained Special Education Teacher
(Lower Elementary)

Research Support

Although students with ADD have not been the subjects of any *ELP* research to date, a number of studies support the use of the program with students with mild disabilities whose learning problems are similar to those of students with ADD. These studies, conducted by individuals who participated in the development of *ELP*, have shown the *ELP* curriculum, and similar strategies that predated its development, to be effective in increasing achievement test scores in reading comprehension, word recognition, and writing. Additionally, observation suggests that students taught with the *ELP* curriculum develop a variety of literacy strategies associated with successful readers and writers. Exhibit 3.4 highlights key features of selected research studies related to *ELP*.

Contact for More Information

For more information on *ELP*, contact:

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Exhibit 3.4: Selected Research Supporting the *Early Literacy Program (ELP)*

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Englert, Garmon, Mariage, Rozendahl, Tarrant, & Urba	1993	N/A	9 teachers	N/A	K-5
Englert, Raphael, & Mariage	1994	Self-contained special education classroom	13 (12 LD, 1 EMH)	N/A	1-3
Englert & Rozendahl	1993	Self-contained special education classroom	2 (LD)	N/A	2-4
Englert, Rozendahl, & Mariage	in press	Self-contained special education classroom	1 (LD)	N/A	3

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
Teaching by first-year ELP teachers; teaching by second-year ELP teacher; teaching without ELP	Strategic performance, basic skills and fluency in reading and writing	Group	Teaching by second-year *ELP* teachers created the highest student strategic performance and basic skills scores; teaching by first-year *ELP* teachers created higher student strategic performance scores than did teaching by control group teachers
ELP Curriculum	Student achievement in reading and writing	Case study	*ELP* instruction improved reading achievement scores by at least one full grade level for 11 of 13 students; writing abilities also improved
ELP Curriculum	Sight-word recognition, writing fluency	Case study	*ELP* classroom improved sight-word recognition, improved ability to generate written work
ELP Curriculum	Student attitude towards writing; development of literacy behavior	Case study	*ELP* resulted in student becoming more strategic in his writing, recognizing sources of assistance, and increasing his literacy behavior

(continued)

Exhibit 3.4: Selected Research Supporting *ELP* (continued)

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Englert, Tarrant, Mariage, & Oxer	1994	Resource Rooms	35 prospective teachers and 109 students (78 LD, 20 SED)	N/A	1-8
Mariage & Englert	1993	Self-contained special education classrooms	6 (LD)	N/A	1-4 (longi-tudinal)
Palincsar & Klenk	1992	Self-contained special education classroom	8 (LD)	— / 6-8	N/A

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
Two instructional programs: POSSE[1] and K-W-L[2]	Written recall, comprehension of instructed passages, and strategy knowledge	Group	POSSE increased recall of ideas more than K-W-L; POSSE produced better comprehension than did K-W-L; POSSE produced greater strategy knowledge than did K-W-L
ELP Curriculum	Student achievement in reading and writing	Case study	For 5 of 6 students, *ELP* led to gains of more than 2 years in reading achievement during 3rd and 4th grades; writing vocabulary and abilities improved also
Intentional Literacy Learning	Student attitudes	Case study	Intentional Literacy Learning resulted in: 1) looking for information in text, 2) becoming more interested in learning to read, 3) writing to express themselves, and 4) becoming more interested in sharing knowledge

[1] POSSE (Predict, Organize, Search, Summarize, Evaluate) is based on a social constructivist perspective and is designed to support dialogic interactions.

[2] K-W-L (What we know, What we want to find out, What we learned and still need to learn) is also based on a social constructivist perspective but without the emphasis on dialogic interactions.

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Chapter Four

Tribes

Tribes is a way of empowering students—letting them have some say in what happens to them with their education, with agreements that they said they would follow. Those agreements are the basis of the classroom that includes Tribes. Tribes is also building a safety net, an environment that's safe and allows people to be able to say what they need to say, but to think about what they're going to say before they say it so that there are no put-downs. It builds inclusion so that students feel good about the environment, and about working in that safe environment.

Patty Harrington
Fourth Grade Teacher

The Purpose

Jeanne Gibbs (1987) describes how *Tribes* evolved:

> It began many years ago as I watched my own young children struggle as strangers each time we moved to a new school in a new town. It began with my own search for close friends and caring community. It began with an ever-growing awareness that the values of individualism and competition may have blessed our Western world with amazing achievements accomplished by the strong, but left behind was a wake of "losers" engulfed in failure, alienation, delinquency, alcohol/drug abuse, unemployment, despair, lost dreams and hopelessness. Massive funding to remedy problems of the lost still fails to stem the tide. It is rare that dollars and energy are dedicated towards preventing problems rather than treating them. Moreover, it verges on being heretical to suggest that a different approach needs to be taken by all the caretaking systems . . . schools, families, daycare programs, youth organizations and human service agencies themselves. The thought began to percolate some sixteen years ago: What if those systems altered their own environments so that people learned to live alternative values, such as: cooperation, altruism, respect for individual differences, kindness, and love? Would all then have a better chance to grow to their fullest innate potentials?
>
> Encouraged by other explorers, my purpose became one of finding answers to those two questions. This book represents a synthesis of social change and human development theory to assist educators touching the lives of children to build supportive learning environments.

Tribes is not a curriculum in the traditional sense of the word. It is a way of setting up a positive classroom climate. A teacher describes the relationship between *Tribes* and content areas:

The curriculum of the day is the content and Tribes *is the context.* Tribes *is the shell of the car and then [the curriculum] is the motor and the different parts of the car are the different subjects that we blend in.*

Patty Harrington
Fourth Grade Teacher

The Structure

Jeanne Gibbs (1987) describes a "tribe" as:

> A group of five or six children who work together throughout each day throughout the school year. If possible they are seated together in a circle of desks or at the same table in their classroom. Each classroom, depending upon its size, may have four to five tribes. The activities that the tribes engage in generally fall into three categories:
>
> - Sharing personal concerns, feelings, and positive regard for one another;
> - Planning, problem-solving and maintaining an environment of positive support for all members; and
> - Working cooperatively on curriculum as assigned by the teacher.
>
> The tribes are formed sociometrically to distribute boys and girls, students of high and low peer acceptance and special problem children. . . . The teacher never participates directly in the groups, but acts as a "facilitator." The teacher gives directions, sets time limits, and maintains control by intervening only when necessary. He/she recognizes that responsibility must be transferred to the students to manage the tribes so that **peer support** enables the achievement of program goals. (p. 19)

Many people see *Tribes* as a separate subject and they'll say, "Oh, I don't have time for it!" And they don't see it as a glue that comes with everything else. [Someone who didn't understand *Tribes*] said, "You take my kids and teach them *Tribes* and I'll teach your kids art during that time." I said, "No, no, no, you're missing the point."

Brian Mathis
Special Day Class
Teacher

Because *Tribes* instills the classroom with a process in which all members take part, the values that govern the *Tribes* process systematically become a part of the culture of the classroom. *Tribes* uses the considerable influence of peers in order to make the process work; the students themselves, rather than the teacher, become each other's mechanisms of checks and balances.

Practitioners' comments on the role of the individual within the context of a *Tribes* classroom further illustrate the structure of the program:

[Tribes] *is a cooperative learning program where the children learn about each other and from each other. It's a process whereby they've learned to live harmoniously with each other. . . . The beauty of it is that it doesn't take away from individuality. There are times that a tribe decides to break up and do individual investigation, and then come back together. Sometimes people think that they're always participating in a group and that a child does not have the opportunity to be an individual or to do some things on their own. I have not seen that to be the case.*

Jean Pryor
Elementary School Principal

[Tribes] *creates a safe environment and a community that reflects more what the real world should be and at times is. When we're out in the community we have choices, and we should react and choose responsibly.* [Tribes *teaches*] *that there's a better way of dealing with people than to put them down, to be selfish, and to take what's yours.*

Brian Mathis
Special Day Class Teacher

What I found with Tribes *was that it was the foundation for successful cooperative learning. It set up that positive social climate in your classroom, through the norms, or the agreements. And it took the kids through the stages of group development, by making them feel included, and then having*

At the very beginning of the year . . . every morning we would spend a half hour on our community circle before we would do anything else. It really set the tone for the classroom. . . . Doing the community circle, becoming attached to one another's feelings, finding out that person next to you also has feelings, has helped them really become familiar and friendly with each other. I can pretty much at this point put anybody together.

Jennifer Yinger
Third Grade Teacher

strategies to make decisions, solve problems, resolve conflicts. That was necessary for successful cooperative learning activities.

Michele Cahall
Communication-Handicapped Class Teacher

There are two main dimensions of *Tribes* that complement each other. The *Tribes* process pervades the atmosphere of the classroom and school; the *Tribes* activities, which are fairly contained within themselves, are designed to facilitate the *Tribes* process.

The *Tribes* Process

There are three major parts of *Tribes* around which all else revolves and develops. These parts are cooperative learning, the *Tribes* norms, and the group process.

Cooperative Learning and *Tribes*

Tribes draws on principles of cooperative learning and refers to the work of cooperative learning researchers: Roger and David Johnson, Robert Slavin, Elliot Aronson, and Gerard Poitier. The *Tribes* manual offers several examples of how cooperative learning techniques may be used in conjunction with *Tribes*.

Jeanne Gibbs comments on the differences between *Tribes* and other cooperative learning programs:

We've done a little laundry list comparing [Tribes] *to other cooperative learning type training or teaching. Mostly, they don't have a process, they don't have clear agreements, like the norms. Also, we're deliberately training to certain social skills. [We're] teaching listening, I-messages, problem solving, management of conflict, consensus building. So that's very deliberate in* Tribes. . . . *[Another difference between* Tribes *and other cooperative learning programs] is making a big thing out of reflecting on the process. Some wonderful research shows that the retention of knowledge is increased*

I think I would describe it as a kind of a process that turns the classroom into a functioning community where we have a whole group of individuals who care about what's going on in the class, how they're learning, and how they're behaving. It's a process to resolve problems. I think it's just a community-building process.

Betsy Christ
Principal of Special Services

amazingly when that's done.... And that's moving us now into the higher-level thinking skills, which everybody's *trying to build.*

Cooperative learning can tell you how to set them up in little groups, it can tell you how to work your little groups . . . and yet the program can be totally ineffective in your classroom. *Tribes* offers, on the other hand, a philosophy that goes hand-in-hand with allowing them to do jobs together as groups, but creating the classroom as a group first.

Jennifer Yinger
Third Grade Teacher

The *Tribes* Norms

"Norms" are rules, agreements, standards, codes of behavior, or customs that dictate the way a person behaves in given situations. Jeanne Gibbs (1987) recommends that, if the students are able, teacher and students spend some time brainstorming and discussing what is needed to make a person feel comfortable and secure in a group. Students often indicate that they need "to know I won't get punched or put down" or that they need "people to listen to me when I talk" (p. 37). Students' needs can, almost always, be organized as subcategories of the four norms of *Tribes*. The norms consist of:

- **Attentive Listening:** paying close attention to one another's words and feelings; giving one another caring respect and consideration.
- **No Put-Downs/Appreciation:** avoiding negative remarks, name-calling, hurtful gestures and behaviors; instead . . . treating others kindly and stating appreciation for their unique qualities, value, and helpful contributions to others.
- **Right to Pass:** choosing when and to what extent you will participate in group activities; recognizing that each person has the right to control himself though within a group setting.
- **Confidentiality:** honoring the group's sharing; reminding each other, "No gossip-no names"; being confident that "what we say here . . . stays here." (Gibbs, 1987, p. 21)

The success of the norms within the context of the classroom is in large part dependent upon the teacher's ability to model them effectively;

a teacher who does not pay close attention to what his or her students are saying is not likely to positively influence the students' attentive listening behaviors. Teachers have commented on how the *Tribes* mentality and outlook is an integral part of their own lives:

I also think that I am a Tribes *person.*

Patty Harrington
Fourth Grade Teacher

Because I have been implementing [Tribes] *for so long and I so strongly believe in it, and it's part of me, and part of my philosophy, and part of the way that I am with kids, and people—I transfer it to my relationships with friends and family.*

Michele Cahall
Communication-Handicapped Class Teacher

One of the neatest things that we did at the beginning of the year was having the kids create their own agreements. So we have a whole list that they created of their own agreements. It is entirely theirs. It goes along with the norms.

Patty Harrington
Fourth Grade Teacher

The Group Process

The group process described in the *Tribes* literature is a natural, if mediated, way that groups grow and develop together. Some of this process may be orchestrated by actual *Tribes* activities, the goals of which are "To promote inclusion; to share personal history, interest, beliefs; and to enhance communication skills." But some of the group processing that occurs is spontaneous, although teacher-facilitated. The problem-solving techniques that the students have learned allow them to solve their own dilemmas instead of asking the teacher to referee.

Teaching the norms . . . does so much to give guidelines to the class, a framework the learning can take place in—creating an environment where kids feel safe to learn and to fear and to share.

Daphne Hill
Fifth Grade Teacher

The *Tribes* literature outlines three stages of group development that repeat themselves constantly. Unlike most other cooperative learning curriculums, *Tribes* groups are long-term, and because they are long-term, certain *healthy* conflicts between group members arise that might not arise in short-term groups. The group then works together to solve interpersonal conflict.

The stages of group development are inclusion, influence, and affection. "Inclusion" is the stage during which group members become part of their groups; they become included. The "influence" stage follows:

> As mellow as the stage of inclusion can be, in time a very natural restlessness signals that people are ready to move on. . . . The new restlessness means that the time spent in building inclusion, trust, kindness, and a sense of belonging has been achieved. People are now ready to really work on tasks together. (Gibbs, 1987, p. 27)

Tribes recognizes conflict as a legitimate part of the group development process and uses the opportunity for the members to learn and to grow.

The final stage of the group development process is "affection":

> Affection is the result of feelings, ideas and contributions being acknowledged. It is the state of affairs where the tribe members have a basic commitment to care for and support one another. It is the warmth and satisfaction of having worked together well. . . . It is the laughter after the storm . . . and the essence of one unique soul meeting another. (Gibbs, 1987, p. 29)

The cycle of inclusion, influence, and affection is ever-repeating.

The *Tribes* Activities

In the introduction to the chapter "Tribal Activities" in the *Tribes* manual, Jeanne Gibbs (1987) provides this caveat regarding *Tribes* activities:

Now and then throughout the years that the Tribes Program has been in existence, a statement such as the following makes its way back to us: "I bought a copy of the Tribes book to use the activities in my class, but I was really disappointed! The curriculum didn't seem to work very well with my students." Of course not!

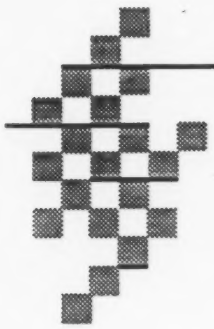
The Tribes Program is a process. It is not a glossy set of "content-validated-lesson-plans arranged in prescribed-curriculum-units." Tribes is **a process,** and as we've said many times before, the **activities are not enough!**

A process is a flowing experience, a journey composed of a sequential series of events that culminate in the achievement of a goal. Activities are some of those events, but as you know by now the tribes process evolves out of the important moments happening between people. The positive groundrules, caring communication and cooperative spirit of the program create the journey. To use the activities alone without intentionally developing the supportive process is like paddling a canoe in a dry creek. (p. 101)

In the *Tribes* manual there are dozens of different activities, each of which is geared toward facilitating some aspect of the *Tribes* process, such as "practicing attentive listening skills." Each activity also contains a wrap-up during which the participants discuss the activity, reflect upon the process, and convey appreciation to other participants. The activities are diverse and often resemble a game; for example, "Build a Better Bathtub" encourages students to brainstorm creative ideas. Exhibit 4.1 provides details on one of the most popular of the many *Tribes* activities—"The Daily Community Circle."

"Energizers" are mini-activities designed to quickly restore energy and enthusiasm to the group. Jeanne Gibbs explains:

(continued on page 72)



Promising Classroom Interventions for Students with Attention Deficit Disorders

July 1994

Prepared for

Office of Special Education Programs
Office of Special Education and Rehabilitative Services
U.S. Department of Education
Washington, D.C. 20202

Contract No. HO23S10005

RTI
RESEARCH TRIANGLE INSTITUTE

This report has been printed for limited distribution by the Research Triangle Institute. It is part of a series of products on the education of students with attention deficit disorders (ADD) prepared with support from the Office of Special Education Programs in the U.S. Department of Education (ED). The Chesapeake Institute, under contract to ED and in collaboration with 12 national professional and parent organizations, is coordinating broad distribution of this document along with other products for parents and educators. It is anticipated that future printings will occur in the fall of 1994.

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For additional information on Chesapeake Institute's materials on issues concerning children with ADD, please contact:

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Exhibit 4.1: Daily Community Circle Activity

Objectives

- To build inclusion
- To learn what is happening with the total group
- To accomplish housekeeping administrative needs
- To teach effective communication skills

Setting the Scene

On the first day of school state to the children and all others that are part of the classroom family (aides, parents, student teachers, etc.) that first thing every morning we will meet in a Community Circle. Explain that we sit in a circle because we can all see and hear each other best that way. Describe the norms that are to be followed: Active Listening, Right to Pass, and No Put-Downs.

Instructions

- Meet in Community Circle.
- Take care of administrative and housekeeping needs such as attendance, notices, and clean-up assignments.
- Review "schedule-of-the-day" so that each child knows the curriculum groupings, projects, and tribes activities planned for the day.

- Review the norms.
- Ask a "question-of-the-day" (e.g., I feel happy when . . .).
- Have children respond in turn to the question. Allow time at the end for those children who passed to respond if they desire.

Discussion

Ask questions such as:

- What are some things that make us happy?
- Did you hear anything new?
- What were some similarities/differences?

Reflection

Ask questions such as:

- Was it hard for you to think of something to say?
- How did you feel sharing yourself in this group?

Appreciation

Suggest people make statements of appreciation:

- "I liked it when. . ."
- "I feel like you when. . ."

Source: Gibbs, J. (1987). *Tribes: A process for social development and cooperative learning.* Santa Rosa, CA: Center Source Publications.

Energizers are opportunities for kids to play non-competitive, cooperative-type games, and the purpose of energizers is to increase the energy in the class. . . . [Students] say, "Can we do an energizer? I need an energizer. Let's do an energizer."

Michele Cahall
Communication-Handicapped Class Teacher

> In the midst of any time together groups of people will periodically experience lower energy within their environments. Concentration becomes more difficult, boredom and sleepiness can set in and will be counterproductive to accomplishing the task at hand. Students especially become restless. They are likely to withdraw or even do the opposite . . . create a disturbance. The remedy? A quick five-minute physical activity to revitalize the group. (p. 232)

Target Population

Tribes began as a program for elementary school children, but since its inception, the program has evolved and been adapted for preschools, juvenile facilities, recreation homes, college classes, and as Jeanne Gibbs comments, ". . . now it's even moved into convalescent homes!" Gibbs points out the applicability of the program for students with special needs:

> Of particular interest is the success with **special education** children, both the developmentally disabled and those with learning disabilities. Schools having diverse **ethnic** populations have realized an increased acceptance of individual and cultural differences. (Gibbs, 1987, p. 14)

Goals

Tribes has very specific goals or intended outcomes:

- Children who maintain long-term membership in supportive groups will improve in self-image, behave more responsibly, and increase their academic achievement.
- Teachers will spend less time managing student behavior problems and have more time for creative teaching.

- Schools, organized into the *Tribes* system, will create a positive climate for learning.
- Parents will report a carryover of positive statements and attitudes from their children into the home environment. (Gibbs, 1987, p. 20)

Implementing *Tribes*

Interactive Learning Systems in Sausalito, California, is the exclusively licensed agency to provide consultation and training in the *Tribes* process. The cost for the 24-hour basic course for 25 to 30 teachers varies from $6,000 to $7,000, and includes copies of the *Tribes* manual.[1] Interactive Learning Systems has a network of certified *Tribes* trainers and consultants conducting staff development throughout the United States and Canada.

The *Tribes* manual offers the following information regarding training:

> Throughout the years of the Tribes program, we have indeed known many people who bought the Tribes book and implemented the process effectively without first experiencing the program in a training session. It certainly can be done, particularly if you have had experience in other interaction process programs.
>
> Tribes is, however, a process most readily learned by teachers through our newly designed "TLC" (Tribes Learning Community) 24-hour training session. The session prepares teachers to use *Tribes* as the foundation for other cooperative learning methods. Certified *Tribes* trainers and consultants are available to conduct on-site training throughout the country. (Gibbs, 1987, p. 241)

[1] A new version of the *Tribes* manual will be available in the summer of 1994: Gibbs, J. (1994). *Tribes: A new way of learning together*. Santa Rosa, California: Center Source Publications.

The assistant principal and I cannot be the disciplinarians for 730 students. In reality, a teacher cannot be the disciplinarian for 28 students—in the sense of watching every child every minute of every day. That's a physical impossibility. When you start looking at what's manageable and what's not manageable, isn't it then more reasonable to teach people to self-manage along with group management?

Jean Pryor
Elementary School
Principal

Jennifer Yinger, a third grade teacher, describes what the *Tribes* training was like for her:

[Training] was three days over the summer—full days. [The trainer] started out with an introduction to the program and we did a lot of inclusion activities, a lot of community-circle-type activities. And for every activity we did three steps—first doing the job, then giving some response to it, some reflection, and then some feeling or appreciation afterwards. The first day we did lots of things as a whole group together. She told us a lot of the philosophy behind it, showed us [graphics on] how our groups will move from affection to appreciation. [She described] all the stages that our groups will go through, that we can see happening, and some of the signs to look for. The second day we actually wrote down tribes for ourselves and we got a chance to actually experience how a tribe was going to move, which was very helpful. The third day we did some wrap-ups and some talking about [the training].

Testimonials of Effectiveness

Researchers have validated a number of the components of *Tribes*, but no research has examined the effectiveness of *Tribes* itself. Practitioners provide anecdotal evidence of the program's effectiveness:

My kids will seek out help, or a time to talk to somebody if something comes up, which I think is phenomenal. They'll go to the counselor, they'll initiate going to the principal, they'll come in and say, "We need to have a community circle. We have some problems." I think it's wonderful.

Michele Cahall
Communication-Handicapped Class Teacher

I think [Tribes] *works very well for the students. Even with my limited involvement—I've been involved in a few community circles—the kids know me better, and now we can sit in my office when [a problem] happens and we*

can process the information. The kids who are in classes that don't really follow Tribes *and don't really work on the social skills and the communication in this way, they have a hard time communicating with me about what has happened and what they did that was wrong and what was a remedy of the situation. They just don't process with me. I get more into a stern-principal-yelling-at-kid thing and I don't like that. I would much rather talk with them. The kids from a* [Tribes] *class, when they come to me, it's so much easier to communicate with them and to process problems.*

Betsy Christ
Principal of Special Services

Both the counselors and the art teachers had the training this summer, and they say that they can tell a difference in a Tribes *classroom. Part of it is just that the kids know the norms and the hand signal for "quiet," but also, they're used to working in groups so they're better able to work in groups.*

Over and over, when we do our [classwide] end of the year summary, we ask "What was the best thing?" And Tribes *was it. Over and over and over that's what kids said. They really wished that they would be able to do it in middle school.*

Daphne Hill
Fifth Grade Teacher

There's a commonality there; there's a certain comfort level that kids are familiar with activities. I think that the focus on children working together and doing these activities together is the common thread throughout the years. This is a K-5 school, so from kindergarten on, they know that there are certain things that are accepted and certain things that are not, as far as interactions. You'll find that the children in this school are incredibly polite and careful with one another. It's unusual.

Ginni Davis
Elementary School Principal

I have heard from parents that [*Tribes* generalizes to the home]. Kids will say at home, "He put me down! He did a put-down!" Or they will say that "so-and-so's gossiping." The norms carry over and kids share those norms with their parents. And *they* refer to them as the norms.

Daphne Hill
Fifth Grade Teacher

Tribes definitely promotes an acceptance of differences, whatever they are, whether they're different skills or different races or different cultures. I think we're a reflection of how we're treated, so those youngsters, if they're treated as being obnoxious or difficult to deal with or always interrupting, well that's a self-confirming prophecy.

(Gibbs, 1987, p. 20)

Tribes and Students with ADD

Tribes is a social skills program that was developed to teach children with diverse needs and backgrounds to work together effectively. As such, it is well suited to the needs of children with ADD. *Tribes* is interactive and allows students to move around, as appropriate. Also, the program uses the power of positive peer pressure to keep the children on-task. Jeanne Gibbs comments:

As far as the youngster who has more of an ADD problem . . . you have to begin to count on the group to control it, to say, "Hey, we need you to be with us." It's a very different message than when a teacher is saying it.

Within the context of the norms, *Tribes* offers a structure that students understand, have discussed, and have agreed to follow. The positive peer regard then reinforces expectations of both social and academic behavior.

Finally, the *Tribes* process itself discourages the creation of a class scapegoat, or isolate. Because children with ADD often get shunted into these roles, *Tribes* is especially suited for this population.

That safeness has worked very effectively for all of them, because they don't feel like they have to strike out, they don't feel like they have to get negative attention or do negative acts to get attention, because everybody gets the same sort of thing. If they're not getting it from me that second, they're getting it from the person next to them.

Jennifer Yinger
Third Grade Teacher

I think the ADHD children can benefit from a program like this so much. They are impulsive, they are [spontaneous], and they're very unpredictable. This deals with the problem and also gives them an outlet of someone understanding. . . . [They can get help from classmates] in a positive way

instead of being the class clown or demanding attention in a negative way, which is normally what happens.

Jean Pryor
Elementary School Principal

To me, Tribes activities help with the equality issue, that everyone's the same. I think that because everyone's involved and active in Tribes activities, the children focus. And that's always a big dilemma with kids who have problems focusing: how to get them tuned in. It's almost what we call a "set" in teaching. The Tribes activities focus them in on what they're doing here. They're part of the group; all the kids then have a chance to work with one another. And I think that's very valuable, for self-esteem especially.

Ginni Davis
Elementary School Principal

A boy in the class is having a tremendous amount of problems because of his behavior. He hasn't been able to get along with any group. This is the fourth group we've been in—we're still doing short-term groups. For a week or so he'll be okay, but then he's complaining and whining about his group, "Nobody likes me," and it's true! So, it's not like I can say, well, we're doing Tribes and everything's wonderful because it's not. Extreme behavior problems like this don't get fixed by a program like Tribes. It's probably better than it would be in another classroom situation, but it's not fixed.

Daphne Hill
Fifth Grade Teacher

Within my class there are probably five that are ADD with hyperactivity. There are probably two that are just ADD without. Because other students can express themselves and tell them that they're off-task and they're goofing off, I get out of the nag. The other students keep them on-task. . . . And I'll model the appreciation, so when the student does do something, [for instance] he is sharing something about [the topic], we recognize that. Or if he is on-task, we appreciate that. The fact that he's just sitting with the group is a plus, and that has to be modeled for the kids sometimes. With the ADD student, if he's learned the first part—"where do I go to get in my group?"—

The free environment that I've created doesn't work for some of [the students with ADD]. The safe environment that I created with their help works for all of them.

Jennifer Yinger
Third Grade Teacher

I'm not sure just how much it's helping the ADD kids—they're still ADD. But I think that being able to get up, move around, be in groups, be on the floor when they want to, and have a little less structure—as far as having to be at their seats doing their work—I think that helps them.

Daphne Hill
Fifth Grade Teacher

then even if he doesn't know what to do when he gets to the group, once he's in the group, they're going to say, "Okay we're doing . . ." and they'll include him.

Brian Mathis
Special Day Class Teacher

Some Limitations

I find it hard to get to the point where I say to them, "How did you feel about this activity? Did you like what we did? Did you not like what we did?" I think I remember to do that about once a day. I don't want to blame this on my schooling, but I think when we go to school we are taught to focus on the curriculum . . . but you're not really taught to stop, step back, and say, "How'd you feel about that?" I'm always interested in how they feel, [but] I guess I never associated in my head that if you're interested—ask them.

Jennifer Yinger
Third Grade Teacher

Perhaps [a limitation is] that if the students have it year after year it gets a little tedious at times and some of the kids will say, "We've already had this," or "We've already done this." I think that teachers need to be a little cautious on overusing the activities. The set activities are only a stepping stone. Teachers are encouraged to develop their own activities using this model.

Ginni Davis
Elementary School Principal

I think there are a lot of teachers who have the basic training . . . but if there's not a follow up or if they don't just fall in love with the idea, they're probably not going to really practice a lot of the program. . . . I think that three days of training just isn't enough. . . . I don't think there's enough background given in doing the training and reading the book to sustain them, to carry them through. . . . [I would recommend] some kind of follow-up training.

Daphne Hill
Fifth Grade Teacher

The possible disadvantages for me have been when not everyone on the staff has the same vocabulary. That's okay as long as the kids don't get in trouble for the fact that they are willing to say, "You know, that didn't work for me," because some teachers don't want to hear that. . . . We try to help the kids to be aware that it's not okay to do this everywhere.

Patty Harrington
Fourth Grade Teacher

Research Support

Although cooperative learning, the norms, the group process, and the *Tribes* activities all contribute to the whole "positive classroom climate" that is so integral to the success of the program, *Tribes* is more than the sum of its multiple components. To date, however, no research has addressed the efficacy of *Tribes* per se. Until researchers evaluate the program as a whole, we must rely on studies of its components in assessing its usefulness. Exhibit 4.2 outlines research studies on cooperative learning, which is the chief component of *Tribes*. The studies indicate that, compared with individualized learning situations, cooperative learning leads to greater feelings of social self-efficacy in individuals, better social skills, more social interactions, and less rejection of students with academic handicaps. Cooperative learning also may result in higher achievement scores than do individual or competitive learning situations. Additionally, research shows that cooperative learning leads to more interaction between members of different ethnic groups and between students with and without handicaps—even during free time. Yager et al. (1986) addressed group processing and determined that group processing after a cooperative activity increased students' retention of material and achievement scores.

Contact for More Information

For training and implementation information, contact:

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Sausalito, CA 94965
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To order the *Tribes* manual, contact:

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Santa Rosa, CA 95401
(707) 577-8233

Exhibit 4.2: Selected Research Supporting *Tribes*

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Bierman & Furman	1984	N/A	56 (low sociometric status and poor conversation skills)	N/A	5-6
Hertz-Lazarowitz, Fuchs, Sharabany, & Eisenberg	1989	Regular education classrooms in Israel	65	N/A	3
Johnson & Johnson	1981	Regular education classroom	51	N/A	4

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
Conversation skills training, positive cooperative peer involvement, and both combined	Conversational skills, peer acceptance, rates of peer interaction, and self-perception	Group	Peer involvement improved sociometric status, rates of peer interaction, and feelings of social efficacy; skill training improved conversational skills; combination of two interventions produced sustained improvements in peer acceptance, social skills, and peer interaction rates
Active (cooperative) classroom instruction and frontal (traditional) classroom instruction	On-task, interactive, and helping behaviors	Group	The active classrooms produced more social interaction (both positive and negative), more cooperation (both on-task and off-task), and more helping interaction; traditional classroom produced more on-task behaviors and more preparation behaviors
Cooperative and individualistic learning	Interethnic interaction	Group	Cooperative instruction produced more cross-ethnic interactions (verbal interactions during instruction, giving/receiving help behaviors, and interactions during free-time)

(continued)

Exhibit 4.2: Selected Research Supporting *Tribes* (continued)

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Johnson, Johnson, Johnson, & Anderson	1976	Regular education classroom	30	N/A	5
Johnson & Johnson	1979	Regular education classrooms	66	N/A	5
Johnson & Johnson	1983	Regular education classrooms	59 (12 special ed.)	N/A	4

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
Cooperative and individualized goal structures	Student prosocial behavior (affective perspective-taking and altruism), attitudes toward learning, and achievement	Group	Cooperative goal structures produced more student altruism and accuracy in identification of feelings; cooperative goal structures produced more feelings of being liked by teacher and peers
Interpersonal cooperation, competition, individualization	Achievement on measures of drill-review, problem-solving, specific-knowledge-acquisition, and specific-knowledge-retention tasks	Group	Cooperation resulted in higher achievement scores than did competition or individualization on all outcome measures
Cooperative, competitive, and individualistic learning	Frequency of interaction between students with handicaps and those without during instructional and free time, perspective-taking ability, self-esteem	Group	Cooperative learning produced more interaction between students with handicaps and those without during instructional and free time; cooperative learning caused the students without handicaps to better understand the perspectives of students with handicaps; and cooperative learning produced better self-esteem

(continued)

Exhibit 4.2: Selected Research Supporting *Tribes* (continued)

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Johnson & Johnson	1982	Regular education classrooms	51 (10 special ed.)	10 / 10-10	4
Madden & Slavin	1983	Regular education classrooms	183 (40 academically handicapped)	N/A	3-5
Yager, Johnson, Johnson, & Snider	1986	Regular education classrooms	84	N/A	3

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
Cooperative and competitive learning conditions	Frequency of interaction between students with handicaps and those without during free time, cross-handicap helping behaviors, time on-task, positive regard for others and group product	Group	Cooperation resulted in more interactions between students with handicaps and those without handicaps; cooperation produced more cross-handicap helping behaviors and more positive regard for each other and the group product; time on-task was not affected
Cooperative and individualistic learning	Regular education students' social acceptance of mainstreamed students with academic handicaps, and regular education students' and mainstreamed students' achievement and attitudes	Group	Cooperative learning decreased the rejection of students with academic handicaps by their general education classmates but did not increase the general education students' choosing of the students with academic handicaps to be friends or workmates; cooperative learning improved the achievement scores of both groups
Cooperative learning with group processing, cooperative learning without group processing, and individualistic learning	Daily achievement, achievement at the end of an instructional unit, and retention	Group	Cooperation with group processing produced the highest achievement scores on daily assignments, posttests, and retention tests

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Chapter Five

Self-Regulated Strategy Development in Writing

Strategies are ways to teach the children to work on their own and to have their own strategies instead of a teacher reminder. That's why I do strategy instruction—because it helps them to own the strategy, so when they don't have me (or their teacher) in the classroom, hopefully they are still going to use the strategy—especially when they go on to middle school, when they've got six teachers and they're switching [classes]. . . . It's helping them to be their own learners.

Barbara Danoff
Elementary Resource Room Teacher

The Purpose

Karen Harris and Steve Graham of the University of Maryland are the primary developers of *Self-Regulated Strategy Development (SRSD)*. They explain the program's approach:

> For students who face significant and often debilitating difficulties, we believe that a purposeful integrated approach to instruction that directly addresses affective, behavioral, cognitive, and social and ecological processes of change and outcomes is particularly appropriate. . . . Such a multicomponent approach, however, must be flexible and modifiable to meet the needs of both teachers and students. Further, such an approach must remain dynamic and open to change based on emerging issues and knowledge. It was based on this perspective that we initially developed our approach. (Harris & Graham, 1992b, pp. 284-285)

SRSD centers on teaching students to self-regulate. Graham, Harris, and Reid (1992) explain the value of this focus:

1. Learning to self-regulate their behavior allows students to become more independent. In addition to the many positive benefits this creates for students, it also reduces demands on teacher time.
2. Learning to use self-regulation procedures often increases students' level of task engagement: thus, in addition to facilitating learning, it may decrease disruptive or off-task behaviors.
3. Perhaps most important, self-regulation techniques enable students to monitor and regulate their own academic performance. (p. 2)

For students who seem to be able to understand and work at regulating their own behaviors and regulating their writing, and following some sort of strategy, I don't worry about them as much now. I feel like I'm doing my job in getting them more ready to be independent. Teaching them skills is one thing, but now I feel like I'm actually teaching them how to learn.

Robin Stern-Hamby
Special Education Consultant

SRSD combines elements of self-regulation with dynamic stages of instruction in order to effectively teach strategies for writing in general, and for writing in different genres (e.g., narrative stories, essays).

SRSD derives from four primary influences: cognitive-behavior modification, self-regulation theory, self-control training, and the learning strategies model:

> Over a decade ago, four sources played a prominent role in designing the SRSD model: Meichenbaum's (1977) development of cognitive behavior modification; the work of Soviet theorists and researchers, especially Vygotsky, Luria, and Sokolov, on self-regulation and the social origins of self-control; the concept of self-control instruction offered by Brown, Campione, and Day (1981); and the development of the learning strategies model by Deshler and associates (cf. Deshler & Schumaker, 1986). Since that time, multiple theoretical and instructional works have continued to influence our work with SRSD (see Harris & Graham, 1992b, for a more detailed discussion of these influences). (Graham & Harris, in press)

The strategy helps the writers to focus on what it is they have to do. It also helps them to focus on who their audience is. [The strategy] gives them a mechanism for getting it from a conceptual stage to an actual product.

David Trudnak
Middle School Principal

The Goals

The goals of *SRSD* reflect the program's emphasis on addressing multiple characteristics of learners:

1. To assist students in mastering the higher-level cognitive processes involved in the planning, production, revising, and editing of written language;
2. To help students further develop the capability to monitor and manage their own writing;

[One of my students] is a macho man and doesn't want anyone else to hear him—but he was mumbling to himself, "Okay, you can do it, let's stay on task."

Vivian Nelson
Middle School
Special Education Teacher

3. To aid students in the development of positive attitudes about writing and themselves as writers. (Harris & Graham, 1992a, p. 11)

The Content of *SRSD*

Harris and Graham (1992b) describe four components that form the foundation for *SRSD*:

> To meet these goals, the development of our approach over a decade ago began with the three major components that theorists considered critical to effective strategy instruction: skillful use of effective strategies; understanding of the use, significance, and limitations of those strategies; and self-regulation of strategic performance (including any combination of goal setting, self-monitoring, self-recording, self-assessment, and self-reinforcement) (Brown et al., 1981; Harris & Graham, 1985; Palincsar, 1986; Palincsar & Brown, 1987). A large body of research indicates that these components are important in helping students understand how and when to apply a strategy; independently produce, evaluate, and modify a strategy effectively; recognize meaningful improvement in skills, process, and products; gain new insights into strategies and their own strategic performance; improve their attitudes toward writing and toward themselves as writers; and facilitate maintenance and generalization of strategic performance. In addition to these basic components, however, our components analysis research (Graham & Harris, [1989b]; Sawyer et al., 1991) and work with teachers indicates that consideration must also be given to the characteristics of strategy instruction. (p. 287)

Seven basic stages of instruction introduce the strategy and self-regulation components (Harris & Graham, 1992a). Exhibit 5.1 describes the *SRSD* stages. Harris and Graham explain the process:

> Throughout these stages, teachers and students collaborate on the acquisition, implementation, evaluation, and modification of strategies. . . . The stages are not meant to be followed in a "cookbook" fashion. Rather, they provide and illustrate a general format and guidelines. The instructional stages are meant to be recursive—teachers may return to any stage at any time. The stages may be reordered, combined, or modified as desired. (p. 12)

Characteristics of Effective Strategy Instruction

Graham and Harris (1993) outline seven characteristics of effective *SRSD* instruction:

> **Explicit instruction.** Teachers can use the model to teach single or complex strategies or can modify these procedures to assist students in deducting or inducting a strategy, guide students in the discovery of a predetermined strategy, or assist them in creating their own strategy.
>
> **Individualization.** Individualization is emphasized throughout the self-regulated strategy development model. First, the strategies, self-regulation procedures, preskills, and other skills stressed during instruction are tailored to individual students' capabilities and based on a thorough understanding of the learner and the task.
>
> **Collaboration.** A key characteristic of the model is collaborative learning between teachers and students. Much of this interaction focuses on helping students learn to apply the target strategies independently and to self-regulate use of the procedures.
>
> **Mastery-based instruction.** We believe that students should move through these stages at their own pace and should not proceed to later stages until they have met at least initial criteria for doing so.

(continued on page 98)

Exhibit 5.1: Strategy Acquisition and Management Stages

Stage 1. *Preskill Development:* The teacher helps students develop preskills important to understanding, acquiring, or executing the target strategy that the students have not already mastered.

Stage 2. *Initial Conference—Instructional Goals and Significance:* The teacher and students examine and discuss prior performance and the strategies students presently use to accomplish a given task. The potential benefits and significance of the proposed strategy instruction are also discussed, and each student is asked to make a commitment to participate as a collaborative partner and attempt to learn to use the strategy. Negative or ineffective self-statements that students currently use may also be discussed.

Stage 3. *Discussion of the Strategy:* The teacher and students discuss the strategy, its purposes, and how and when to use it.

Stage 4. *Modeling:* The instructor models how the strategy is used along with appropriate self-instructions. The self-instructions may include problem definition, planning, strategy use, self-evaluation, coping and error correction, and self-reinforcement statements. After discussing the model's performance, teacher and students may collaborate on changes to make the strategy more effective or efficient. Strategy steps may be modified or combined, a new mnemonic may be developed, and so on. Students also generate and record self-statements they plan to use.

Stage 5. *Memorization of the Strategy:* The students memorize the agreed-upon strategy steps, personalized self-statements, and any mnemonic if appropriate; paraphrasing is allowed as long as the original meaning is maintained.

Stage 6. *Collaborative Practice:* The students practice using the strategy and self-instructions with teacher guidance until the instructional objectives for use of the strategy are met. Teacher and student evaluation of the strategy continues. Self-regulation procedures, including goal-setting, self-assessment, or self-recording, may be introduced at this point.

Stage 7. *Independent Performance:* Students are encouraged to use the strategy and self-instructions independently and covertly. If self-regulation procedures are in use, the instructor and students may decide to start reducing them gradually.

Source: Graham, S., & Harris, K.R. (1993). Self-regulated strategy development: Helping students with learning problems develop as writers. *Elementary School Journal, 94*, 169-181.

Anticipatory instruction. An important part of self-regulated strategy development is anticipating problems. . . . This helps teachers avoid or be ready for problems as they arise.

Enthusiastic, supported teachers. Strategy instruction demands a great deal of teachers, including enthusiastic, responsive teaching.

Enhancing strategy use over time. The implementation of self-regulated strategy development is meant to be an ongoing process in which new strategies are introduced and previously taught strategies are upgraded. (pp. 172-174)

Examples of Strategies Used in *SRSD*

At *SRSD*'s core are the strategies themselves. Graham, Harris, and Sawyer (1987) detail several of the strategies that they have developed and field-tested. These include strategies aimed at improving composition in writing, the story grammar strategy for creative writing, the advance planning strategy, and the essay strategy.

The composition strategies

> . . . enable students to increase vocabulary diversity in their compositions, generate writing content and plan a composition in advance, and revise and edit texts. . . . [A research study examined] LD students' ability to include action verbs, adverbs, and adjectives in a creative short story . . . to increase both the number and diversity of these vocabulary items with a strategy training package that included mastery of a five-step composition strategy, self-instructional statements, and self-regulation procedures. The composition strategy, illustrated here with adjectives, directed the student to: (a) look at the picture (stimulus item) and write down good describing words, (b) think of good story ideas to use these words in, (c) write the story—

use good describing words and be sure the story makes sense, (d) read back over the story (Did I write a good story?) and (e) fix the story (Can I use more good describing words?). (p. 6)

The **story grammar** is

> . . . a strategy for developing and writing a narrative story. The strategy had five steps: (a) Look at the picture (stimulus item), (b) let your mind be free, (c) write down the story part reminder (W-W-W: What = 2; How = 2), (d) write down story ideas for each part, and (e) write your story—use good parts and make sense. Using the mnemonic in the third step, students prompted themselves with seven self-generated questions to produce story content regarding common story elements:
>
> - *Who* is the main character; who else is in the story?
> - *When* does the story take place?
> - *Where* does the story take place?
> - *What* does the main character do?
> - *What* happens when he/she tries to do it?
> - *How* does the story end?
> - *How* does the main character feel? (p. 7)

The **advanced planning strategy** is a mechanism that encourages students to write notes before they actually begin writing a story and to elaborate and expand on these notes while writing the story:

> 1. *Think*, who will read this and why am I writing this?
> 2. *Plan* what to say using TREE (note *topic* sentence, note *reasons*, *examine* reasons, note *ending*).
> 3. *Write* and say more. (p. 7)

Now after I demonstrate [writing a story], I'll have them write a story. And then we'll graph it. And then I'll model another one. So they write a couple of stories before they get to the end, just so they can see the progress as they go along. But they're so visual, and the graphing helps. If I had just said, you have two parts, and you need to write seven, they wouldn't remember that, but because it's on the graph, they remember it.

Barbara Danoff
Elementary Resource Room Teacher

We're going to write a story today using the five writing steps. I have changed that lesson a little bit, too. I used to make them memorize it, and then I would demonstrate. But they're very concrete, these kids, and I felt like if I did the steps with them the first time, and again, and we wrote the story together, it would help. They have memorized the mnemonic and the questions and they've done their first goal setting. They've reviewed the story that they wrote initially.

Barbara Danoff
Elementary Resource Room Teacher

The **essay strategy** is used to help teach students:

> . . . to revise and edit essays composed on a microcomputer [following a six-step strategy:]. . . . (a) Read your essay, (b) find the sentence that tells what you believe—is it clear, (c) add two reasons why you believe it, (d) SCAN each sentence (does it make *sense*; is it *connected* to my belief; can I *add* more; *note* errors), (e) make changes on the computer, and (f) reread the essay and make final changes. (p. 8)

This is only a small sampling of a large number of writing strategies. *SRSD* allows teachers the freedom to change the strategies to fit their students' needs and to create new strategies to fit the instructional situation.

A high school special education teacher explains how a writing strategy has generalized to become part of students' writing repertoires:

The students talk all the time about a strategy that they've been doing for years. That's a real simple thing that they do intuitively with other writing tasks. They just know to look for the task, the audience, and the purpose of the story. It's a simple thing, but then again, that's a starting point for them. We did timed writing about a month ago with our tenth graders. They knew to do the strategy. We start teaching them this strategy in the fifth grade, so by the time they reach ninth or tenth grade, they've heard it so often that it just becomes a tool that they use.

Jane Higdon
High School Special Education Teacher

Target Population

Graham & Harris (1993) state that: "Self-regulated strategy development was designed for students in the upper elementary

grades or above and contains multiple instructional components" (p. 171). Additionally, Graham et al. (1987) describe *SRSD*'s appropriateness for students with learning disabilities:

> LD students . . . have been characterized by a lack of active task engagement and persistence (Harris, 1986a, 1986b), and they appear to have difficulty executing and monitoring the cognitive processes central to effective writing. For example, in a recent review, Graham and Harris [1989a] concluded that LD students have difficulty generating, planning, framing, producing, and revising text . . . . Consequently, given the nature of writing and the writing characteristics of LD students, strategy training provides a good match to both the task and the characteristics of the students under consideration. (p. 2)

A special education consultant describes the students for whom strategy instruction has been most effective:

What I'm finding is that the students who are benefiting the most from [strategy instruction] are the bright kids who either have severe learning disabilities or moderate to severe attention problems and [before strategy instruction] they can't even get the steam up to get going, much less to continue through the task.

Robin Stern-Hamby
Special Education Consultant

Implementing *SRSD*

Most teachers who currently use the *SRSD* approach to writing instruction learned the program from Harris and Graham either through coursework at the University of Maryland or through involvement in research on *SRSD*. Harris and Graham offer commercial workshops or inservice programs directed at training

teachers in *SRSD* in their local area. They recommend that interested teachers read their book, *Helping Young Writers Master the Craft: Strategy Instruction and Self-Regulation in the Writing Process*, which they believe will provide most teachers with enough information to implement the program successfully. Also, Harris and Graham are available to teachers or school systems for consultation.

Testimonials of Effectiveness

Practitioners describe the effectiveness of *SRSD* in general:

Over the years, when I've monitored student writing, I've found that if students use some mechanism, whether it is [a particular strategy] or some other strategy that gives them some kind of crutch that they can go by, then you're going to have more elaboration. There'll be less frivolous writing.

David Trudnak
Middle School Principal

I know that the one strategy that I've continued to use over the years is the strategy that we use with kids for the writing test. I guess that I rely on testing data to show that it works. Last year 100% of our kids passed the writing test, and it's a tough test. This year only three kids failed it. One came into the county late, one was a regular ed kid. And then there's one special ed kid who hasn't passed it. I feel that that's a success. People keep telling us that we're cheating on the test and we keep telling them that we're not!

Jane Higdon
High School Special Education Teacher

They seem excited to me. I mean, they'll stop me in the hallway to tell me the mnemonic, and they remember their questions and they're excited; but then, I think this age group likes to write creative stories and they want to be able to do a good job. And all these kids, they want a good grade; they want to do a good job. And the first day we brainstormed about "Why we should be better writers," they came up with all these ideas about why they want to learn how

to write. So, I think setting the purpose helps a lot too, as far as remembering that "one of you could be an author when you grow up, so we need to learn how to write good stories." They came up with a million reasons why they need to be able to write good stories. And they came up with good ones, such as to write for a magazine, to fill out a college application, to get a good job, to get good grades in middle school.

Barbara Danoff
Elementary Resource Room Teacher

I can think of these trips that we took to the library to do research, and [the students] had this web of their own that they took with them. As we collated all the pieces and sent that home, that was another big highlight—the fact that everybody could do it. I think that, yes, they are fairly enthusiastic. We even had a child two years ago who, because of cerebral palsy, was completely dependent on a computer. And she did the webbing strategy. She just did it in a line format and we cut and pasted so that she got the idea of organizing, but she was even enthusiastic, and writing was for her, of course, very painful.

Julie Lowe
Third Grade Teacher

I used to do strategies, but not to this extent. Everyone was given the same directions, and now I'm really into individual learning styles and needs, especially the ADD kid versus a self-motivating better writer. I didn't used to do as much prewriting; I didn't used to give them as much structure. I would talk about how to put a story together, but I didn't always present it the same way. This gives me consistency. I remember my first year of teaching, when I would put a picture up and tell the students to write something about it, but we might have skipped the whole brainstorming section. So, some kids would jump right into the middle of the story because they didn't even realize that they had to get the beginning thoughts of the story down on paper! Using strategies gives structure to the task, and that's what they need, and that's what I need as a teacher. In order to know if they're writing a good story, I need to know what makes up a good story.

Robin Stern-Hamby
Special Education Consultant

I've seen a lot of progress. Some of my students I've had for two years, and when they came, they just couldn't focus long enough to get an idea down on paper. The learning disability was just so involved that they just couldn't write. But, at the same time, they had a lot of ideas. Now, some of the same kids are writing some really hefty stories.

Robin Stern-Hamby
Special Education
Consultant

It was extremely interesting to see that when I talked about writing strategies, they remembered it [from year to year]. And it took me not a lot of time to go through the steps. I put up the chart and they remembered it. When I was reviewing it with them . . . [I could ask,] "Who can tell me what comes next?" And you could see the growth when I looked at what they had done for me the previous year and the way they had written a piece, and then what they produced for me the second year following the same format; the comfort level was there. What they did that second year on the human body was noticeably better than what they had done the previous year.

Joan Alexander
Elementary Reading Specialist

In the beginning of the year [an eighth grade class] was very reluctant to write because they felt like they couldn't do it. At [the end] of the year, they don't have any problems with having to write. They say, "Okay, if that's what I have to do, I'll take out a sheet of paper and start my brainstorming." Their confidence level has increased quite a bit and they're more willing to give me a written response to anything.

Vivian Nelson
Middle School Special Education Teacher

SRSD and Students with ADD

Graham and Harris (1993) describe *SRSD*'s particular applicability to students with learning problems and attention deficits:

> The cognitive processes considered central to effective writing, though, are often problematic for students with learning problems, and their writing difficulties may be related to problems in the self-regulation of organized, strategic behaviors. They are frequently described as inattentive, impulsive, distractible, unmotivated, and off-task (Licht, 1983).

> Self-regulated strategy instruction provides a "good match" to the needs of students with learning problems and the cognitive demands of effective writing because it uses a variety of mechanisms for promoting active involvement, enriching the cognitive resources students can draw on, and altering their beliefs. This is accomplished through various forms of support integrated throughout the model. One form of support is inherent in the strategies taught—a strategy provides structure that helps one organize and sequence behavior. (p. 171)

Although *SRSD* was designed for students with learning disabilities, many of the adjectives used above to describe problematic characteristics of students are clearly applicable to students with ADD, as well.

Teachers also comment on the efficacy of using *SRSD* with students with attention deficits and related problems:

Basically, what I've found, and I think it still holds true, is that the normally achieving child picks up the strategy faster, memorizes it faster, generalizes it much easier. With the LD kid I had to do much more teaching of the strategy. He just couldn't take it home and memorize it. And the memory component, I think especially with ADHD kids, is a big factor. Now they know it, but I've done a lot of teaching before they would memorize it, plus I see them twice a day for reading and for written language. So I kept going over it, and over, and over, and over. But I think that's the difference. In the regular classroom, we just did extension activities until everyone could memorize.

Barbara Danoff
Elementary Resource Room Teacher

[Strategy training] does provide for children with attention deficits; it limits the focus. It's easy to break down the steps for them. If they're in the library, and they want to find out how animals get food from the forest, that can be broken down—"today I want you to find the answer to this." I think it has a

way of focusing them. It also provides them with some structure, which obviously they need. A lot of the children that we have done this strategy with have had that label and have been on or off medication at various times, so we've been able to see the effect. I think the performance was about equal. They didn't do any worse, [although] they didn't necessarily do any better.

Julie Lowe
Third Grade Teacher

I can think of one little girl in particular who has been identified as ADD. She's one of these children . . . [for whom strategy training] was very effective because it gave her that structure and that focus. It gave her a way to put all these divergent thoughts that she had into a manageable framework. It was a godsend for her because it gave us something concrete to do with her. I think that if you were able to see what that child was able to do without the structure, you would really see the difference. I think it also helps [another child] who was not a risk-taker at all when it came to putting anything on paper. If he couldn't write it perfectly, he wasn't going to write it. He never ever had an idea about anything that he was able to put down. [Strategy training] was also a valuable tool for him to have.

Joan Alexander
Elementary Reading Specialist

There have been times when, because of her complications, [a student with ADD] will sit there the entire period and won't say anything and won't do anything. She's concentrating or thinking about something outside of the classroom, so even though you insist that she stay on task, she will not perform. Now, because of the way we do [a particular strategy] and the other strategies, she has managed to stay on task for at least half of the period.

Vivian Nelson
Middle School Special Education Teacher

For kids who have ADD or have trouble focusing, I do a lot more of the graphing, or something more reinforcing where they're counting words, or something where week to week we can see the improvement. . . . For ADD kids I found that self-monitoring on-task behavior helped a great deal and I was really impressed with how well that worked.

Robin Stern-Hamby
Special Education Consultant

Let's say you asked a child to write a persuasive letter. A child who's truly ADD will have trouble attending to that task. So, when their attention is on and then their attention is off . . . if they didn't have a strategy for completion, there's no telling where they'd pick up. It comes back to them having a sort of diagram for where they're going. I think it's excellent for that kind of a student. I think that it would be excellent for the student who might not have the capacity to write as well as somebody else. I think it would be very good for the student who has an awful lot of ideas just coming out. . . . I think it would help them write better.

David Trudnak
Middle School Principal

I think that what we're doing, with kids including hyperactive kids, is giving them a starting point and a tool to accomplish a project. . . . So many hyperactive and LD kids need concreteness, and strategies offer them a way to get to the end. It helps organize them.

Jane Higdon
High School Special Education Teacher

Some Limitations

In addressing the limitations and challenges of *SRSD*, Harris and Graham (1992b) acknowledge that "a single instructional approach can neither affect all aspects of performance nor address the complex nature of school success or failure" and that "meeting the goals of strategy instruction in writing requires a carefully thought out combination of components, characteristics, and procedures, enacted in a meaningful environment" (p. 286). They view strategy instruction as an "emerging approach, one neither fully constructed nor fully understood at this time," which nonetheless can make "a viable contribution to the repertoires of both regular and special educators" (p. 286).

[The success of the approach] could depend upon the teacher and the rapport between the teacher and the students. . . . It may not be appropriate for everyone.

Vivian Nelson
Middle School Special Education Teacher

Practicing educators describe some limitations they have encountered:

There's time to the lessons. Not that any good lesson doesn't take time, but it takes a long time to teach the strategy. And that's hard with their curriculum.

Barbara Danoff
Elementary Resource Room Teacher

I guess you have to have a student who is able to understand what you're trying to get across. Some of them need to be led through every single step and they're not ready to be shown strategies to practice on their own. Like anything, it just doesn't work with every child. Also, it takes time to organize, and to figure out what you want to use, and when. Once you get started, it doesn't seem to take any teacher time. But getting started sometimes takes a while, just to clue the kids in to what you're doing.

Robin Stern-Hamby
Special Education Consultant

A drawback or limitation would be overuse. If there was only one strategy that a teacher employed, I think the kids would tire of it after a while.

David Trudnak
Middle School Principal

Sometimes the kids aren't motivated to take in the approach. They don't see the need for it. I can think of one kid, in particular, who is the only tenth grader that we have who has not passed the state writing test, and he's perfectly capable of it. He just won't give the time to pay attention to the details of the strategy approach that we've been teaching him. It's been really frustrating because he keeps failing this test. He's indicated that he's frustrated, and yet he doesn't want to own the strategies that we've tried to teach him, and he's not willing to develop his own either.

Jane Higdon
High School Special Education Teacher

Research Support

Harris and Graham and their colleagues have systematically tested *SRSD* at every stage of its development. Although studies have focused primarily on students with learning disabilities, the *SRSD* strategies appear relevant to students with attention deficits as well. According to the research findings, when students are instructed in *SRSD* strategies (1) they use the strategies, (2) their knowledge of the writing process increases, (3) their self-efficacy related to writing increases, and (4) their overall writing performance improves. More specific results include longer stories, increased inclusion of story elements, and increased overall story quality. In a number of studies, researchers have found that use of the strategies generalizes across time and setting. Exhibit 5.2 outlines key features of selected studies.

Contact for More Information

For more information regarding *SRSD*, contact:

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Harris and Graham's (1992a) book on *SRSD*, *Helping Young Writers Master the Craft: Strategy Instruction and Self-Regulation in the Writing Process*, is available from Brookline Books in Cambridge, Massachusetts. The toll-free number for Brookline Books is 1-800-666-BOOK.

Exhibit 5.2: Selected Research Supporting *SRSD* (continued)

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Graham, MacArthur, Schwartz, & Page-Voth	1992	Resource room	4 (LD)	12 / 11-13	5
Harris	1986a	Private testing room	60 (30 LD)	— / 7-8	N/A
MacArthur, Schwartz, & Graham	1991	Self-contained LD class	29 (LD)	11 / N/A	4-6
Sawyer, Graham, & Harris	1992	Room for small-group instruction	56 (43 LD)	12 / 10-14	5-6

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
Writing strategy that included setting product and process goals, organization of notes, planning during writing, and self-evaluation	Quality of writing, prewriting and composing time, strategy use, self-efficacy, generalization	Single-subject	Strategy instruction improved writing performance and knowledge of writing process; transfer effects were mixed
Cognitive-behavior modification (self-instruction)	Private speech (rate and proportion that was task-relevant), time to complete puzzle, persistence time	Group	Self-instructional training resulted in a higher proportion of task-relevant private speech and longer persistence time
Reciprocal peer editing strategy	Quality of writing, knowledge about writing and revising, actual revising activity	Group	Students in the strategy group learned and used the strategy; they made more revisions and produced higher-quality papers than controls
Full *SRSD*, *SRSD* without self-regulation, direct teaching	Inclusion and development of story elements, overall quality of story, self-efficacy, strategy usage, generalization, maintenance of skills	Group	*SRSD* produced higher schematic development scores; full *SRSD* generalized best; there were no significant differences between interventions on measures of story quality; intervention did not affect self-efficacy

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Chapter Six

Earth Science Videodisc Program

In 20 years of teaching, **Earth Science** *is the most elegant piece of packaged instruction that I've used, and I've used a lot of them. And it's not because it's technology or it's sexy. It's incredibly well conceived. It supports students. It provides a scaffold. It does it with a clear presentation that's short. It does it with frequent checkpoints. It does it by asking students to respond orally. It does it with lots of cumulative review, but not deadly review—it's variety review, it's review in different contexts. That's good instruction for everybody, but especially for lower-performing kids.*

Sam Miller
Eighth Grade Science Teacher

The Purpose

Earth Science is a videodisc-based science program for middle and high school students. Led by Alan Hofmeister at Utah State University and by Siegfried Engelmann and Douglas Carnine at the University of Oregon, experts developed the program based on well-tested curriculum theories, field tested it with individuals and with whole classes, and revised it based on the findings from the field tests. Hofmeister, Englemann, and Carnine (1989) describe the resulting program as consistent with research that has identified the following components of effective teaching:

- Begin a lesson with a short review of previous, prerequisite learning.
- Begin a lesson with a short statement of goals.
- Present new material in small steps, with student practice after each step.
- Give clear and detailed instructions and explanations.
- Provide a high level of active practice for all students.
- Ask a large number of questions, check for student understanding, and obtain responses from all students.
- Guide students during initial practice.
- Provide systematic feedback and corrections.
- Provide explicit instruction and practice for seatwork exercises and, where necessary, monitor students during seatwork. (p. 668)

The researchers describe the videodisc technology as a flexible vehicle for effective instruction, but assert that "the quality of the curricular and instructional 'knowledge base' represented in the courseware,

The emphasis of this program is on the concepts as opposed to learning lots of detailed facts. It continually reinforces and builds on those concepts. It's also a spiral curriculum in that a concept is introduced, and students may move into a new concept, but they come back to the other concept and then continue to build on it or at least reinforce it. So it continually adds new strands or new threads that spiral in or are woven into the curriculum.

Dorthea Costa
Middle School
Science Teacher

rather than the attributes of the technology, were considered the major source of instructional power" (p. 668).

Four double-sided videodiscs present 35 lessons (28 teaching lessons and seven test lessons) to an entire class. The videodisc program includes tests, quizzes, reviews, and remedial exercises. Additional materials include a *Student Response Booklet*, an *Instructor's Manual*, and supplements that provide problem-solving exercises and lab activities. The *Instructor's Manual* (Systems Impact, 1987) describes the focus of the program:

> *Earth Science* is a program designed to teach students basic, generalizable concepts in a way that reduces confusion and presents a minimum of technical vocabulary. The focus of the program is on the concepts and how they are applied to concrete examples, not on elaborate definitions and abstractions. (p. 1)

Teachers can use *Earth Science* in conjunction with other instructional materials, such as textbooks. However, the program's developers, as well as some of the teachers who have used the program, recommend completing the videodisc program and then turning to other materials rather than interrupting the program with supplemental materials. Conversely, because it is designed to *teach* concepts, not merely present them, *Earth Science* is not designed to be used intermittently as a supplement to other instruction (Systems Impact, 1987).

The Content and Instruction

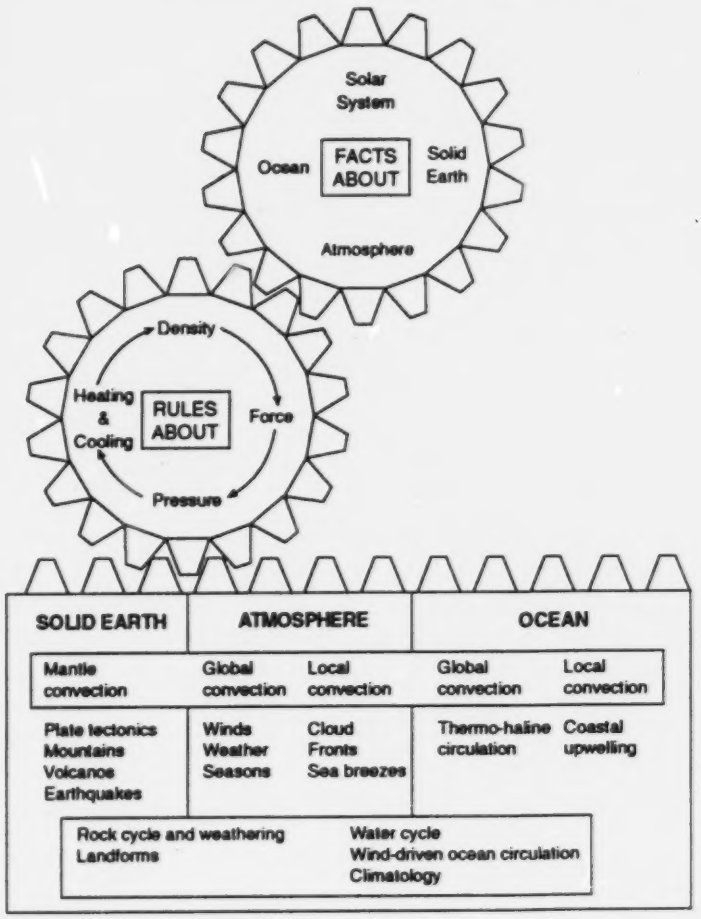
Each of *Earth Science*'s 28 videodisc teaching lessons covers multiple concepts and skills with overlap within lessons and across the sequence of lessons. The following list shows the general topics covered in the approximate order they are addressed:

- **Temperature & Matter**
- **The Earth**
  - Landmarks
  - Movement (Seasons, Day & Night)
  - Internal Structure
  - Landforms
  - Fossils
  - Earthquake Waves
- **Density** (Mass, Volume)
- **Forces**
  - Dynamic Pressure
  - Gravity
  - Weathering
  - Static Pressure
- **Convection**/Convection Cells in the
  - Atmosphere
  - Mantle
  - Ocean
- **Cycles**
  - Water
  - Rock
- **Currents**
  - Ocean Surface
  - Sea Breezes
  - Tides
- **Weather**
  - Relative Humidity
  - Air Masses
  - High & Low Pressure Areas

The Instructor's Manual (Systems Impact, 1987) describes an instructional design with an emphasis on the foundation concepts that support detail. Exhibit 6.1 illustrates the organization of the information that is presented to students. The manual summarizes the course of instruction within each daily lesson as follows:

(continued on page 122)

Exhibit 6.1: Organization of Information in *Earth Science*



Source: Systems Impact, Inc. (1987). *Earth Science: Instructor's Manual.* Washington, D.C: Author.

BEST COPY AVAILABLE

Each teaching lesson presents more than one concept or skill and takes about *30 minutes* of class time (excluding worksheet activities). Most teaching lessons begin with a daily quiz that tests the new material presented in the preceding lesson. The course provides remedies when students do not perform acceptably on the quizzes. Most teaching lessons also have a review segment that covers earlier-taught information and gives students practice in working problems one at a time, providing feedback on each problem. Assignments in the *Student Response Booklet* are coordinated with the teaching lessons (Worksheet 1 goes with Lesson 1, etc.). Worksheet assignments take *15 to 25 minutes* and may be completed in class, during a study period, or at home. Every fifth-lesson test covers all the skills presented in the preceding four lessons. Remedies are specified for each skill tested. Presenting fifth-lesson tests and possible remedies takes *15 to 40 minutes* depending on the performance of the students. The Earth Science Mastery Test covers all the skills presented in the course. Remedies are specified for each skill tested. (p. 3-4)

Practitioners' descriptions of *Earth Science* provide additional information about the content of the program and its use in instruction:

The program presents a lot of basic earth science concepts. It doesn't delve into any one area in any great depth, but it ties everything together. It points out how convection is important in a number of different areas of earth science. It talks about different types of pressure and so on. It pyramids on itself. After each five lessons it's covered one or two new concepts. It starts real broad, but it begins to get into each of the different areas. By the time we were done, we'd touched on oceanography, we'd touched on identification of rocks and minerals, we'd touched on plate tectonics and weather.

Chuck Winger
Eighth Grade Science Teacher

It really just focuses on the most essential vocabulary. It doesn't try to become a lexicon of scientific vocabulary—one of the things that's quite difficult for students at all levels. It really doesn't require you to memorize a lot of unnecessary vocabulary.

Sam Miller
Eighth Grade Science Teacher

[Earth Sciences] *teaches the core concepts. It doesn't try to teach everything you're going to find in a textbook. It teaches the essential concepts that the kids are supposed to cover in that year, and it teaches them in a way to build generalization so that they really get a handle, for example, on the uses of the concept of the convection cell. Textbooks—math textbooks are good examples—never really go back and integrate stuff that you've already covered. It's just, "oh, well good, fractions are over, let's move on." In the videodisc, wherever they've learned something they integrate it and use it again. And it builds generalization. You don't see the generalization as much with textbooks. Textbooks cluster information [so students] get a lot of mass practice but they don't get any distributed practice to build retention and to help with the transfer. And that's what this program does.*

Linda Carnine
District Director of Special Education

The nice thing is you can back it up and reteach. I think that's the real difference between using a videotape or a 16mm projector. A piece of the concept is taught, an example is given, questions are asked of the kids; if they didn't quite get this right, let's back up and redo this. You don't typically do that in a lesson. Too typical is the teacher who says, "Read Chapter 1, answer the questions, we're going to have a test on Friday, and you either got it or you didn't." Kids don't learn that way—some kids do, but not all kids.

Lynn Arnie
Middle School Principal

Really the technology is secondary—the instructions are what's important. The technology permits you to control the pace of the instruction and how much review you feel is necessary. So as a teacher, I'm no longer stuck toward the front of the class wondering what student performance is. I'm circulating around the room during the presentation and I have a very clear picture from looking at their papers and listening to their oral responses as to where they are instructionally. You do some supplemental things and you get a very good idea about who knows what and who doesn't. That's much different from a textbook where you might ask kids to silently read, and if they don't have good reading skills then it's become a test of reading comprehension as

You don't have to watch it for very long to realize that it's not like watching a movie. You have to be involved. You can sit there and go to sleep in a movie. You can go to sleep reading your textbook, but when you're constantly being asked to respond (at least once a minute, sometimes more often) you can't.

Chuck Winger
Eighth Grade
Science Teacher

opposed to conceptual understanding . . . and the kids don't see things as a network of information. It becomes like "Science Jeopardy."

Sam Miller
Eighth Grade Science Teacher

I also think there's no question that the technology angle of this is a real grabber for those kids. It's visually very appealing, and they live in a visual world. It's a big hook.

Larry Bentz
Middle School Principal

I find that the students find this presentation much more interesting than my presentation or just reading it from the book. I can still step in and explain things. I can still step in and add concepts. But I think this program explains concepts, such as density, so much better than I can, or than they can get out of the textbook, because they can watch things expand and contract and change in a three-dimensional way. They even have sound effects—if something expands there's this little squeaky noise. The kids find that not only easier to understand but more entertaining. It also gets you away from their just reading a textbook. When you have so many students who really have difficulty with reading, yet they can learn, you need a different approach.

Dorthea Costa
Middle School Science Teacher

While this program is not an MTV type of entertainment, I think kids are tuned in to seeing visually what's happening. . . . It doesn't sink in, just hearing it. So when you have the visual to put with it, and the interaction of the teacher with the students to make sure they've got the concept, I guess it hits more of those different learning modalities . . . [and] we begin to make some impact. I think that's the beauty of the program.

Lynn Arnie
Middle School Principal

Supplemental problem-solving exercises, published separately as *Problems in Earth Science* (Miller, Carnine, & Steely, 1993), extend the *Earth Science* program using a cooperative learning format. Sam Miller, a part-time teacher and part-time researcher, led the development of the problem-solving supplement, in conjunction with Douglas Carnine and colleagues at the University of Oregon. The exercises provide a supplemental curriculum focused on higher-order thinking skills with purposes of teaching students problem-solving strategies and meaningful skills for communication of knowledge. Miller describes it as follows:

It's not built into the commercial package. It's supplemental. It's designed so that every five lessons, after you give a test, you stop and you engage in this activity for a couple of days. It's cooperative and it's set up in kind of a game format. It doesn't require any technology other than paper and overhead transparencies [transparency masters are provided]. . . . Part of the function of the problem-solving materials is to have some alternatives that are directly related to what the kids are learning. Get off the videodisc. Give them a chance to interact with each other, because during the videodisc presentation it's pretty much students interacting with the videodisc and perhaps a teacher, but not interacting with their peers. So we set up this problem-solving material so that the students could work in cooperative groups. In addition, the videodisc program has them do a lot of short-answer responses, so one of our goals was to develop material where students would have to do more writing and apply what they learned.

Sam Miller
Eighth Grade Science Teacher

But you can't just turn on the TV, sit back, and let the kids do the work. You really become a much more interactive part, with the curriculum, with the kids themselves. You have to think more on your feet.

Dorthea Costa
Middle School
Science Teacher

Impact on Teachers

Because *Earth Science* delivers most of the course content, it requires far less didactic instruction from teachers. The teachers' job changes in two ways. First, they are freed of planning responsibilities for the core curriculum, allowing them more time for planning supplemental activities. Second, during classroom instruction, they have greater responsibility for monitoring the performance of individual students. The teacher moves among the students, observes their oral and written responses, gives feedback, records student error data, and selects remedies (Muthukrishna, Carnine, Grossen, & Miller, 1992). Teachers explain:

Your role does change, and how uncomfortable that is depends on your normal teaching style. If you see yourself as the provider of knowledge, if you're worried about or think that you have to cram all this information in and you

have to cover X amount, I think the transition is very difficult. If you like being a facilitator of the information, if you see yourself more in that role, the transition is easier. . . . It takes less time [than a traditional instructional approach] because the organization and the flow of it is already set. In class, even though you're running a videodisc program, you're not sitting back. It does mean that you're constantly circulating and monitoring and watching who's involved and who's not. When they're doing the workbook you really have to focus in one-on-one with students who are having trouble with it. But the overall planning is easier, because it is laid out. Where it becomes more challenging is when you want to go beyond that program, to add hands-on activities or to incorporate problem solving—then you start adding to your planning time.

Dorthea Costa
Middle School Science Teacher

Teachers are still the decisionmakers. They go through material. They present it. The kids still have to come back and review stuff. They still have to make the decisions about what we do next. I don't think teachers are taken out of the decision-making role, but they don't have to do as much of the presenting. Basically, they seem to really like it.

Linda Carnine
District Director
of Special Education

One of the absolute benefits of this program is, during the time period I teach this, and I only teach it for about a 14-week period, I can do other things because I step in here every day and . . . it's all prepared in advance. I don't think I would want to teach every aspect of everything I teach all day long this way, but for this objective, it's a superior way to accomplish the objective.

Sam Miller
Eighth Grade Science Teacher

If the kids understand it from talking about blobs in a medium [as Earth Science *does], if they got the concept, then that's what matters, and whether it was easy for me or hard for me is pretty immaterial. The reality is that there are many times when it is not a particularly tough program for the teacher. You just have to supplement. Anybody who's going to attempt to do a good job is going to do that.*

Chuck Winger
Eighth Grade Science Teacher

Implementation Requirements

Getting started with *Earth Science* requires a substantial investment. The cost of the program, including the four videodiscs and student materials for 30 students, is approximately $2,500. A videodisc player costs $500 to $800, and 25-inch monitors are roughly $700. (A standard television can be used instead of a monitor.) To fund the program, administrators report using textbook money, diverting money from other instructional materials or equipment funds, or designating *Earth Science* as a special project.

Within a school, two or three teachers can share one set of materials and equipment. Some teachers recommend two monitors per classroom:

You need two monitors. This is not like watching TV, this is not like watching a movie. The kids have to be able to see the screen. I read things off the screen, but the kids move their desks around the monitors and you have to have at least two monitors. That's really important. You can run two off of one player.

Chuck Winger
Eighth Grade Science Teacher

In addition to the instructional materials and equipment, training of staff in the use of the program requires an investment in both time and money. A videotape, *Getting Started with System Impact Laserdiscs*, comes with the purchase of the *Earth Science* program. The videotape addresses the following topics:

- Using the Videodisc Equipment
- How a Lesson Works
- Teaching a Lesson
- Introducing the Program

We've got to get to the point that it's OK not to have a textbook. We've got to utilize this [other material] knowing that this is our textbook. Money is an issue, although looking down the road at the dollars we spend on textbooks, . . . in comparison the cost is much more effective.

Lynn Arnie
Middle School Principal

- Setting Up Student Expectations
- A Review of Important Points
- An Efficient Way to Correct Student Response Booklets
- How Tests Work
- Reteaching
- Getting the Most from Your Laser Discs

Inservice time is required for instruction on and practice with the program. Many administrators and teachers report that, for better or worse, teachers have used *Earth Science* with minimal training:

I don't believe it requires huge amounts of training. You've got to be comfortable with the equipment and the formatting. Some people may be comfortable in a couple of hours. We didn't have the luxury of lots of time to do it.

Lynn Arnie
Middle School Principal

[My training was] just a short two-hour inservice, basically a presentation of it and how it worked. I had to come in on my own to figure out how the machine worked. And I sat in on another class once or twice to see how the teacher went through the program. It wasn't really enough. I think a person needs to play with it to really understand how it works. We all kind of use our own style with it.

Dennis Gray
Eighth Grade Science Teacher

You don't need extensive training, but I do believe that teachers would benefit from a couple of hours of hearing certain things. The best way to do that is to hear it from somebody who has used the program. I think you can push it to a higher level for people who indicate [a real] interest. People who are going to use the program because they have to, you could give them five weeks of training and it wouldn't matter. . . . Some of those behaviors [watching,

monitoring] you can learn in training. But some people would need a personality transplant.

Sam Miller
Eighth Grade Science Teacher

Testimonials of Effectiveness

Practitioners familiar with *Earth Science* praise its overall value:

They are learning the concepts much more thoroughly than they did in the previous programs, which were traditional textbook oriented. . . . Kids just will not read a textbook unless you force them to go through it. Not very many kids are going to wade through it. I think that textbooks for middle school are very poorly written in general. . . . The key thing is the presentation—the fact that it allows the teacher to stop and go back and go through the same thing again, very easily and very quickly, so there's not down time. The teacher is able to be pretty mobile. It's very slick. The kids are intrigued by it. . . . It just delivers more bang for the buck than reading in a textbook.

Larry Bentz
Middle School Principal

I kind of had my arm twisted to do this last year. I was pretty set that I was [already] doing it the best way. I don't feel like the kids really lost a lot the other way, but having done [the videodisc] last year and being into it again this year has made me think back to all the big concepts that we have struggled to get kids to understand and that maybe we struggled to understand when we were in school. It's those types of things where I've had a lot of success [with the videodisc program] getting things across to kids. This is a super tool, and that's what it is, a tool. As far as something new to come along, it's the best thing we've had.

Chuck Winger
Eighth Grade Science Teacher

The program really allows students to know that they're learning. They don't have to guess, "Do I understand it?," because they'll get immediate checks when they go through still frames on reviews or oral questions. That contributes a lot to motivation because they don't have to wait for a test to figure out if they're in the ballpark.

Sam Miller
Eighth Grade
Science Teacher

There's no way that students, whether they're accelerated or really high achieving or not, would think that this was a program for low performers, but the beauty of it is that it's just as effective with the high performer as it is with the low-performing students. A lot of people don't see that. They think that because this is so structured, because this is so systematic, it must be designed for lower-performing students. That's not the case. . . . Good instruction is good instruction. Good instruction for low performers is also good instruction for high performers. The difference is the high performer doesn't need as many examples or as much repetition to get the idea.

Sam Miller
Eighth Grade Science Teacher

I have not seen a more effective concept presentation format for kids. The technology hooks the kid into the topic, and then the way the information is presented, it teaches concepts rather than rote memorization. From my observations, plus listening to teachers—our sense is that the kids are really responding.

Larry Bentz
Middle School Principal

We had over 40 students in one room. I don't know how we survived, but it worked with that bunch. We happened to have students last year who were very difficult, but it kept their attention and they did well with it.

Char Noyes
Middle School Special Education Teacher

Practitioners also testify to the effectiveness of *Earth Science* for diverse learners:

We [special education teachers] sat down with the science teachers to try to develop reading skills materials and study skills materials for the [textbook-based] science program and came to a dead stop. We weren't even able to go into it because the textbook is so difficult and it skipped around so much that we really couldn't pull out the concepts they wanted. The vocabulary, the reading level were really difficult. This program enables students who are poor readers to be able to succeed.

Char Noyes
Middle School Special Education Teacher

Last year, for the first quarter, before I started this program, I had a couple of kids who got Ds and Fs who were identified as resource kids. They basically chose to do nothing. The textbook required them to read a lot. The tests and assignments came both from texts and from notes and labs. There were a variety of study guides and so on, but a lot of assignments required them to

dig into their textbooks for information, which is fairly standard. Those [assignments] would never come in, or when they did come in they were really incomplete. With the videodisc program, they both got Bs the rest of the year. A lot of it had to do with reading, because this didn't require as much reading and when it did they got some help.

Chuck Winger
Eighth Grade Science Teacher

I think we have some kids who behaviorally are fine but who typically have gone into these classes and vegetated because [traditional science instruction] blows them away. I think for those kids there is an advantage. No hard data to support that, it's just my gut reaction. . . . We haven't been doing it long enough that I can say by looking at standardized tests that we're seeing our science [results] go up through the roof. But on an informal basis, I get teachers talking about kids who have had learning problems who are understanding and doing better than they've ever done before using that program. Long range, it'll be interesting to see what happens.

Lynn Arnie
Middle School Principal

For learning problems in general, the [program is helpful because] there's a lot of repetition in it and it presents it in various ways. The main thing is the animated video. Kids cue in on that movement. The animation itself, the video, the repetition, the variety—written questions on the screens or verbal questions that they respond to—it keeps things moving all the time. I think that's how it affects those kind of kids.

Dennis Gray
Eighth Grade Science Teacher

It does help the kids who have reading problems because the reading doesn't get in the way of their assimilation of the complex information. I'm sold on it because I think it's good material and I think it does help them, but I don't think it's [a complete] answer to the issue of how to work with those kids.

Larry Bentz
Middle School Principal

We have some [special education] students who have never had science because they've always been pulled out during science, and they're dealing successfully with the program.

Char Noyes
Middle School Special Education Teacher

A lot of times the kids who aren't successful in textbooks aren't successful in lab situations either. They don't have the confidence, so they tend to hang back and let somebody else do it for them. Those are the kids who are actively participating, and they find success.

Chuck Winger
Eighth Grade
Science Teacher

Earth Science and Students with ADD

Many features of *Earth Science* are consistent with the instructional techniques that research suggests will be effective with students with ADD. In particular, the emphasis on concepts rather than facts, the frequent repetition and review, the fast pace, and the changing instructional formats make the program quite promising for this population. Although researchers have not investigated *Earth Science* specifically with students with ADD, practitioners offer testimonials of its potential:

We have a boy in the program who is very active, and he's doing very well. . . . He's interested enough in the program that that the behavior [problem] kind of falls by the wayside and he watches and really picks up on it. He has an A- or B+ average. We have another student who's always on the move and always talking. He really enjoys the program and [has said] that it's really helped him learn. I think it's real effective, but I think that you have to build in a lot of structure with the program. You have to set expectations. For example, they have to be watching the monitor, they have to respond orally when they're called on, and they have to write their responses down [to the questions on the videodisc].

Char Noyes
Middle School Special Education Teacher

Students with ADD really attend when the visual comes on. They really like that. They still have trouble getting their work done. Because of the structure they seem to be learning it, and I know that a lot of the kids were not learning things.

Linda Carnine
District Director of Special Education

I think the single biggest thing is the idea that it does move fairly fast and it requires them to stay pretty much on task. A lot of it is that they'll look to the kid next to them and that kid's on task, that kid's paying attention, so they'll pay attention. . . . And most of the time that's the way it works with this

I wouldn't say that if they really had a severe attention deficit that they always sat with rapt attention. It's not total magic. But I venture to guess that they're working to their highest potential, in terms of being focused, of anything they're capable of doing. The only way I can gauge that, comparing it to non-videodisc times in the class, is that they are tremendously engaged. I wish I could have that kind of effect on them myself.

Sam Miller
Eighth Grade
Science Teacher

program. The vast majority of the kids key into it. I don't know if it's just because they like TV – that was the start of it, I think.

Chuck Winger
Eighth Grade Science Teacher

Some Limitations

As the testimonials above indicate, *Earth Science* has many strengths as an instructional program. Practitioners who have used the program also report on *Earth Science*'s limitations. As the statements below indicate, these limitations are not necessarily weaknesses. Rather, they help to delineate what the program can and cannot do.

It's very important to follow the program. We're using the same program now in other eighth grade classes and it's not going very well because the teacher doesn't really believe in the program. He's a very paper and pencil oriented person, so he goes through the motions of utilizing the videodisc, but the emphasis is still upon the paper-and-pencil, rote-memorization scenario. The difference is really striking. The level of interest on the part of the kids is different, the degree of participation. So it's not the answer to—I don't want to say a poor teacher because the teacher is not necessarily poor—but it's not an answer to an issue about preferred teaching style or methods.

Larry Bentz
Middle School Principal

The one thing the program lacks is lab activities—more hands-on activities to reinforce the concepts. None is built into the [videodisc] program right now. Initially, because it's so much on concepts, you tend to stay with the program. As the kids know the concepts and are better at applying them, then I try to work them into more hands-on activities where they can work with those concepts in a lab situation. . . . From my standpoint, the problem is time, trying to teach the program as well as glean materials that fit in with where we are in the program.

Dorthea Costa
Middle School Science Teacher

I don't believe that [technology] takes the place of a teacher. There are people who think that at some point in time, you'd end up being able to teach kids strictly with video monitors, computers, and all that technology. I argue against that. I think there's the personal contact that has to take place. Monitors don't build self images in kids. My view of it is it's a great tool, but it's only one of a lot of tools that educators need to use.

Lynn Arnie
Middle School Principal

The drawbacks that I see mostly are the financial drawbacks. It's expensive. You need that equipment. If we had more equipment we could utilize it more effectively.

Larry Bentz
Middle School Principal

In my opinion it's not a program you can use for an entire year. There are 35 lessons. It's about a 50-day program—35 to 40 instructional periods, and most of the lessons take a period. . . . That's just using the videodisc. It goes for five lessons and there's a break. At that point, I insert labs and problem solving, which I think is probably the best part of the whole program for a lot of the kids.

Chuck Winger
Eighth Grade Science Teacher

If you just drive students through 35 lessons of the program nonstop and don't do anything else, don't take any side trips, after about 10 or 15 lessons you can be sure that kids will really begin to dislike it. It's not a function of the program. Students will begin to dislike anything you do with that degree of consistency with no variety.

Sam Miller
Eighth Grade Science Teacher

When students are absent it's very difficult to catch them up . . . because we don't have the area for them to be able to come to catch up and we are limited on machines. We only have two machines—one machine being used for four classes. So students have to come in before or after, and at this school they're not really into that. The other problem is that if you have a student come into the program who has never been into it, they've missed a lot because there are a lot of really important concepts that are introduced right away in this program.

Char Noyes
Middle School Special Education Teacher

Research Support

The *Earth Science* program is a well-researched instructional package with demonstrated benefits for general education and special education students. Most important, the program's developers built it on a foundation of instructional design that is extensively researched and proven in practice. Exhibit 6.2 presents key features of selected research studies related to *Earth Science*. As the exhibit indicates, some studies compared the effects of the *Earth Science* program and traditional instruction, or compared the effects of other videodisc programs with traditional instruction. Other studies in the exhibit demonstrate the relative effectiveness of the instructional techniques employed in *Earth Science*. Overall, results indicate that concept-oriented videodisc instruction in general and *Earth Science* in particular is more effective than traditional instruction in teaching facts, concepts, and problem solving.

Contact for More Information

For more information about the *Earth Science Videodisc Program* or other science instruction on videodisc, contact:

Learning 2000, Inc.
3487 West 2100 South, Suite 106
Salt Lake City, UT 84119
(801) 972-0294

Exhibit 6.2: Selected Research Supporting *Earth Science*

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Darch & Carnine	1986	LD resource room	24 (LD)	N/A	4-6
Hofmeister, Englemann, & Carnine	1989	N/A	15 (5 LD, 10 remedial)	N/A	N/A
Moore & Carnine	1989	General education basic math classrooms	29 (6 spec ed.)	N/A	9-11
Muthukrishna, Carnine, Grossen, & Miller	1992	General education science classrooms	41	N/A	8

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
Information via visual spatial displays, and information via text	Content knowledge, student attitude towards instruction	Group	Visual display produced higher scores on tests of content knowledge; students felt they learned more from visual display instruction
Videodisc chemistry instruction	Conceptual content knowledge, student attitude towards science	Group	Videodisc instruction vastly improved scores on tests of conceptual knowledge; student attitude towards instruction also improved
Active Teaching with Validated Curriculum Design (ATCD) and Active Teaching with Basal Curriculum Design (ATB)	Time on-task, student success rate on ratio/ proportion problems, student attitude towards instruction	Group	ATCD produced higher rates of time on-task and higher percentages of problems completed correctly; ATCD also promoted more positive student attitudes toward the content matter
Science instruction using *Earth Science* videodisc program	Students' alternative frameworks (misconceptions) for interpreting science phenomena	Group	90% of the alternative frameworks held by students were eliminated using the videodisc instruction

(continued)

Exhibit 6.2: Selected Research Supporting *Earth Science* (continued)

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Niedelman, Carnine, Grossen, & Miller	1990	General education classrooms	133 (3 LD, 1 BD)	N/A	8
Peterson, Hofmeister, & Lubke	1988	General education classrooms	11 classrooms with 363 students (44 special education or Chap 1)	N/A	5
Woodward	in press	General education science classrooms	46	N/A	8

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
Problem-solving instruction combined with *Earth Science* videodisc program, and textbook instruction	Earth science relational understanding , earth science problem solving, math problem solving	Group	Problem-solving instruction combined with videodisc resulted in greater improvements in earth science understanding and problem solving, but transfer to math problem solving did not occur; special education students improved relatively more than non-special education
Videodisc instruction in decimals and fractions	Mastery test scores and standardized test scores	Group	Pre- and postmastery tests showed clear patterns of success for all classes in fractions and decimals
Science instruction arranged by a collection of related facts and concepts (topical discourse), and science instruction arranged by principles and concepts (causal discourse)	Retention of conceptual information, ability to apply concepts in order to solve problems	Group	Causal discourse caused much better retention of concepts and key facts and produced much greater problem-solving ability

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Chapter Seven

Skills for School Success

Skills for School Success *is probably the most relevant study skills program I've seen. It's easy to implement and it really has practical uses. It's not a stand-alone program—it can easily be integrated into the curriculum the way study skills really need to be taught.*

Sandi Levenson
Elementary School Principal

The Purpose

Anita Archer and Mary Gleason developed *Skills for School Success* to address the organizational needs of all students, but especially those with mild disabilities who are being educated in mainstream classrooms:

> While many mildly handicapped students do not possess successful study strategies, or fail to activate known strategies at the appropriate time, regular education teachers do *expect* students to employ these study skills. In fact, regular classroom teachers usually expect these study skills without providing explicit instruction in the skills or in the many ways in which the skills can be used. (Gleason, Colvin, & Archer, 1991, p. 138)

The relationship between teachers' expectations of students and the students' subsequent success or failure in school is clear:

> In effect, the commonly used methods of instruction imply a common set of study skills for students. If these skills are adequate, the student will succeed; if the skills are not adequate, the student will have problems. Some students will fail, some students will drop out, and other students will be referred for special education. That students learn from teaching is predicated on the assumption that students have adequate study skills. (Gleason et al., 1991, p. 139)

Skills for School Success is a teacher-directed program designed to teach critical organization skills and study skills systematically to students in grades three through six. *Advanced Skills for School Success* presents similar materials to junior high and middle school students who have not used the original program. The program teaches appropriate school behaviors, organization skills, specific learning strategies, textbook reference skills, graphics skills, and use of classroom reference materials (Archer & Gleason, 1989, 1992).

The Scope and Sequence

Archer and Gleason define "study skills":

> The systematic procedures that students initiate to complete such complex tasks as skimming, determining relevant information, taking notes, and studying material for a test are called interchangeably *study skills*, *study strategies*, or *learning strategies*. . . . Study skills are not necessarily related to specific academic content (e.g., history), but are used across content areas. . . . Whether they are called study skills, study strategies, or learning strategies, these techniques are taught to students to empower them to respond successfully to academic demands and to increase their potential for learning independently. (Gleason et al., 1991, pp. 137-138)

The major goals of study skills are to gain, respond to, and organize information:

> To accomplish the goal of *gaining information*, students must be taught study strategies that allow them to extract information from lectures, discussions, demonstrations, textbooks, and reference materials. To accomplish the goal of *responding to information*, students must be able to study for and take tests, complete written assignments and papers, write answers to questions, and participate in discussions. To accomplish the goals of *organizing information*, students must be taught to organize notebooks, keep assignment calendars, and organize content on papers. (Gleason et al., 1991, p. 138)

Exhibit 7.1 presents the scope and sequence of the skills, organized around six strands, that *Skills for School Success* addresses for grades three through six.

(continued on page 148)

Exhibit 7.1: Skills for School Success — Scope and Sequence

School Behaviors and Organization Skills

- Using Appropriate Before-Class Behaviors
- Using Appropriate During-Class Behaviors
- Organizing and Using Notebooks
- Writing Entries on Assignment Calendar
- Using a Calendar to Plan Homework
- Getting Ready to Do Homework
- Completing Homework
- Organizing Assignments on Papers (HOW)
- Organizing Desks and Other Materials

Learning Strategies

- Strategies for Gaining Information and Responding in Class
  - Completing Assignments with Directions
  - Memorizing/Studying Information (RCRC)
  - Answering Chapter Questions
  - Proofreading Written Assignments
  - Previewing Chapter Content (Warm-Up)
  - Reading Expository Chapters (Active Reading)
  - Taking Notes on Written Material
  - Taking Notes on Lectures

Strategies for Studying and Taking Tests

- Multiple-Choice Tests
- True/False Tests
- Short-Answer Tests
- Content-Area Tests
- Skill-Based Tests

Textbook Reference Skills

- Using the Table of Contents
- Using the Glossary
- Using the Index
- Selecting the Appropriate Reference Source
- Locating Information on the Title Page
- Using the Copyright Page
- Using Other Reference Lists

Graphics

- Reading and Interpreting Graphics
  - Pictographs
  - Pie Charts
  - Vertical Bar Graphs
  - Line Graphs
  - Horizontal Bar Graphs
  - Tables
- Comparing Information on Graphs of Same Type
- Interpreting and Comparing Information from Different Types of Graphs

Reference Books

- Alphabetizing
- Locating Words Quickly in a Dictionary
- Reading and Interpreting Dictionary Entries
- Locating Entries in an Encyclopedia
- Locating Information in Encyclopedia Entries

Advanced Skills for School Success incorporates and continues many of the skills taught in the original program, but also expands the program to include skills such as "participating in discussions" and "writing reports."

The Lessons and Instruction

The introduction in the *Teacher Guide* (Archer & Gleason, 1989) explains the schedule of instruction:

> The *Skills for School Success* program introduces organization and study skills that will help students throughout the school year; therefore, the program should be introduced on the first day of school and be taught regularly during the initial months of the school year. The program is designed so that one lesson can be taught each day. (Two lessons are taught on Day 1.)
>
> Implementation of the program may be scheduled in two ways. A number of lessons may be taught each day during the initial weeks of school, focusing the instruction during those weeks on how to be a successful student. Teaching three or four of the lessons each week is another way to schedule instruction. Either of these plans is acceptable, provided the lessons and skills activities in each strand are taught in order and all skills are taught to a high level of mastery. (p. 6)

I would say that the best feature is that it is so easy to integrate into your lessons. A lot of times with a skill book . . . you're just teaching a skill, then it's not retained. But if you incorporate that [skill] into the writing, the reading, and anything else that you're covering, then [students] can see the application.

Ron Hammond
Fourth Grade Teacher

Although *Skills for School Success* is a curriculum with its own lessons and objectives, it is not a stand-alone program. The skills taught in this program can, and should, be reinforced across the content areas.

Skills for School Success is designed as a program that builds on itself and reinforces skills through years of practice:

> Once the skills have been taught, the teacher needs to review the skills, remind students to use the skills, provide feedback on skill usage, and hold students accountable for using the skills. Following many scripted teaching procedures are suggestions for reinforcing study skills. Skill application activities throughout the program provide continuing skill practice. Skill maintenance activities provide procedures for maintaining the skills. (Archer & Gleason, 1989, p. 7)

Two of the most important components of *Skills for School Success* are the notebook and the planning calendar. The following sections elaborate.

The Notebook

Students are required to have a standard three-ring notebook with 1-inch to 2-inch rings, dividers for each subject plus at least one additional divider, a pen or pencil pouch, and notebook paper. Some schools have implemented the notebook school-wide requiring that every student in grades three, four, and five have a notebook organized in the prescribed manner. Archer and Gleason explain the rationale behind requiring students to obtain and maintain a notebook in a prescribed manner. They also provide suggestions regarding implementing the notebook system and maintaining student motivation:

> Students must be taught to build an organizational system that allows them to store papers, retrieve necessary materials, and transport materials between classroom and home. . . . the teacher must demonstrate how to use the system, then provide daily opportunities for students to *practice* storing and retrieving materials and keeping materials organized, or reorganizing materials if they have become unorganized. . . . Frequent feedback regarding notebook organization can be given and students can learn to use a checklist to give themselves feedback about their organization. Teachers can praise

My day closes down with that notebook and we open with that notebook every morning. . . . We're always asking for notebooks and doing spontaneous notebook checks. . . . I find it very helpful if it's used properly.

Mary Burge
Fourth Grade Teacher

students who remember to take notebooks home, bring them back, and take them to other classes, and they can invite students to show their organized notebooks to significant school personnel (e.g., the principal). The teacher can use any activity that promotes the notebook as integral to the daily successes of students. (Gleason et al., 1991, pp. 152-153)

A principal comments about her students' reactions to the *Skills for School Success* notebooks:

The kids love it. They love the notebook checks. . . . We've had whole classes earn the [award for complete notebooks], so it's contagious. The kids find the notebook much easier to keep track of. The notebooks are attractive and the kids are seeing that they last, and the parents are seeing that they last. We didn't mandate the notebooks, but the majority of students have them.

Sandi Levenson
Elementary School Principal

At the beginning of each month we supply the kids each with a calendar, and on that calendar we post all of the information that's going to be important for that particular month so that they can get themselves organized by filling in long-term projects and their homework each night. That allows them to plan ahead for any of the projects that they need to do and ensures that they have their homework in a specific place so that they'll know where to locate it.

Shelly Isenberg
Third Grade Teacher

The Calendar

A series of lessons teaches students how to use a calendar for planning. The *Teacher Guide* explains that: "The monthly assignment calendar will allow students to 1) record homework assignments, tests, reports, and special events; 2) plan daily homework study; and 3) plan ahead to complete longer assignments on time" (Archer & Gleason, 1989, p. 15). The calendar is integral to general time management. The following paragraphs describe the steps the teacher should take in teaching students to use the calendar:

> As students begin to assume responsibility for longer assignments and for bringing various materials home (Grades 3 and above), they must be taught basic time management skills. One of these skills involves keeping a monthly assignment

calendar on which students record when assignments are due or when special events will occur (Archer & Gleason, 1989). Students also can learn to use their calendars to determine nightly study activities, such as reading several pages in their content area textbook, studying notes for a test on Friday, or beginning to collect samples of objects that demonstrate earth science principles.

Teaching the assignment calendar skills requires teaching a number of component skills first. Students must learn to locate today's date on a monthly calendar, locate a due date given a variety of directions, write abbreviations for subject areas and for assignments, and record appropriate calendar entries. Once they have learned those component skills, they begin to plan for nightly activities by breaking homework assignments into small parts and using calendar entries to determine homework assignments that should be completed. The teacher should teach each of these components separately and provide many opportunities for practice. (Gleason et al., 1991, p. 153)

Target Population

Skills for School Success is appropriate for students in grades 3 through 6; *Advanced Skills for School Success* may be used with students in middle or in high school. The *Teacher Guide* (Archer & Gleason, 1989) states that, "While this program is primarily designed for use in the regular classroom, it may also be used in special education classrooms, remedial settings, special study skills programs, and summer programs" (p. 5).

Implementing *Skills for School Success*

Many schools institute *Skills for School Success* school-wide and use an in-service format to teach teachers how to use the program. Other teachers may have learned the program through instructional videotapes or by attending workshops. An elementary school principal explains how her school implemented *Skills for School Success*:

We've had a lot of workshops. We've done our own. [For example], the third grade team went off-campus for a day's training and then they came back and trained the rest of the staff. Each year we do at least a half-day training—an update of the workshop—and then a full-day training for new teachers on staff, so that all staff members are up to the same spot. The part that we've found so successful is the parent training. The teachers were originally trained do a training workshop for parents, and those are really well attended. . . . We had a $3,000 grant initially, and the PTA did the notebooks. . . . So it's not bad at all, as far as cost out of pocket, for the teachers or for the parents. I can't give you an exact dollar amount because we're implementing it in different stages. . . . We couldn't have done it, or it would have been a lot slower, if we didn't have the grant money. We purchased the program for third grade and notebooks for every student. So, that'll give you an idea; it was $3,000 for the total program [including the workshop].

Sandi Levenson
Elementary School Principal

Testimonials of Effectiveness

Although there are no research studies that have scientifically examined the efficacy of *Skills for School Success* as a total program, many of the program's components are supported by research. (See the Research Support section later in this chapter.) Practitioners, however, provide testimonial support for the program:

It's good that [the program] is something you integrate into the classroom. We don't have to have a special time for study-skills lessons. It's an ongoing thing. If you were to sit in on any of our classrooms, we'd be doing things like having [students] take out highlighters and highlighting direction words, checking that papers are on the correct side, that the headings are there. We like [the program] because it's not something that we have to take time out every day to teach. We just reinforce it daily through the types of lessons that we teach.

Kim Withers
Third Grade Teacher

It's a lot easier when everyone has the same thing to work with and is doing the same thing. [If you say] "Take out your assignment book," it's one assignment book that you can generally look for, and not the little pad of paper, or piece of paper that's torn out that you know is going to get pushed into their pocket and washed before they remember what their assignment was. . . . The change has been remarkable, this year, using the series.

Vivian Azopardi
Fifth Grade Teacher

I think [Skills for School Success] *is working wonders. . . . In the beginning of the year, if they were taking a true/false test or a multiple-choice test, the kids really didn't know what to look for. They found that there are specific words that indicate it's false or could mean that it's true. So, it's helping a lot on the test-taking skills. Also, in general, the work that they put down is much neater, much more presentable. It's not so off-the-wall.*

Ron Hammond
Fourth Grade Teacher

I've already seen an improvement in my class since we've started using [the program]—an improvement in organizational skills, study habits, and even just in heading their paper.

Sharon Herring
Fifth Grade Teacher

We're getting feedback not just from fourth grade teachers but from fifth grade teachers coming back to us and saying, "Since you have started this we have seen a great difference in the organizational skills." We're also getting feedback from the middle school as this first group has moved into middle school now. . . . The schools are coming back to us and saying, "We can see a big difference in the students. They're organized, they're ready to sit down and do the work. Their papers are neater."

Shelly Isenberg
Third Grade Teacher

Skills for School Success and Students with ADD

Gleason et al. (1991) describe the appropriateness of *Skills for School Success* for children with mild handicaps such as learning disabilities or behavior disorders. Clearly, much of what is relevant in the program for students with these conditions is also relevant for students with ADD:

> A great deal of evidence exists that mildly handicapped students lack the organizational and study skills needed to respond to the task demands of the regular classroom and that they experience difficulty in acquiring those skills. For example, several studies have found that mildly handicapped students are not actively involved in learning and show deficiencies in spontaneous use of study skill strategies (Torgesen, 1977). Other studies have found that these students do not improve recall through minimal study skill instruction (Gelzheiser, Cort & Sheperd, 1987; Newman & Hagen, 1981). In other words, many mildly handicapped students do not possess or self-generate effective study strategies, and they frequently do not use those strategies that have been taught. (p. 138)

> Teachers face the challenge of transforming passive learners into learners who are involved more actively and who are more successful in meeting classroom expectations. We will accomplish this task by teaching students effective study strategies for gaining information, responding to information, and organizing information. (p. 140)

Children with ADD have difficulty getting organized and are often unable to methodically apply skills to learning tasks. Practitioners comment on how children with ADD respond to *Skills for School Success*:

> And they're proud as the dickens when they do [the homework]! . . . You can see a difference in attitude—they feel better about themselves, too, because they know that they're doing what they're supposed to be doing.
>
> **Alice Richeson**
> Third Grade Teacher

I have some ADD kids in my class. And I feel [the program is] what's keeping them on track. We use the planning calendar . . . and that helps them organize themselves. . . . I think it's helping them to organize themselves mentally. I can see, with the skills that they teach in here, it's helping them have a mental outline, and it is giving them direction. Instead of being just scattered, they can put [ideas] into some kind of outline as they work.

Ron Hammond
Fourth Grade Teacher

[The program breaks tasks] down into smaller steps, and that's something that I have found has been very effective for those students who do have the short attention span; it focuses on one thing at a time.

Sharon Herring
Fifth Grade Teacher

[Skills for School Success] *allows them a specific way of organizing their thoughts. They have a very difficult time staying on task and concentrating on the work at hand. By having folders, for example, they know exactly what's supposed to go home, and what's supposed to stay home and what's supposed to be returned.*

John Fraebel
Second Grade Teacher

I have two children who are designated as attention deficit. . . . One little girl, who didn't bring any materials in, who came in without books and without pencils, or [instead] with little toys every single day, is now doing her homework daily. It's always done. It's not always done correctly, but it's always done.

Alice Richeson
Third Grade Teacher

The kids [with ADD] still lose some papers, but what's happened is that [everything's] all in one packet, it's all in one notebook and they don't have as much trouble keeping track of what's happening. And a couple of little kids have come up and said, "I'm really organized now!" They're so proud! It's

really helped their pride and self-esteem. Since the whole school's doing it, they're not isolated as having special help for organization. They're a part of the school. That's important. . . . So I think that the self-esteem and the pride in work has really made a difference . . . and helped them when they go on to middle school, especially.

Sandi Levenson
Elementary School Principal

I feel that an ADD child needs structured settings. And if they can give it to themselves, it's going to keep them on track just that much more. . . .I think the reason it sticks with them is because they are internalizing it each day.

Ron Hammond
Fourth Grade Teacher

I have one student in my class [who has a 504 plan] whose organizational skills were very poor at the beginning of the year. I have, I would say, 90-95% homework from him in each subject now.

Vivian Azopardi
Fifth Grade Teacher

Things are not perfect, but [a parent of a child with ADD] has seen a great improvement in her child's organizational skills. They still have to go back and go through the notebook and clean things out and reorganize things, but she says that she's seen a dramatic change in his organizational skills. And that's what an ADD child needs. They need to really be organized, and know where to put things.

Shelly Isenberg
Third Grade Teacher

Some Limitations

I found that when I used the teachers' manual alone, that I would sometimes lose [track]—or maybe go ahead—of where the students were in their workbooks, so I started using the students' book, and now I'm able to keep up with them a little bit better. I know where they are and they know where I am. . . . I think that the teachers' manual is excellent, but I'd like to see some of the students' pages incorporated into the teachers' edition.

Sharon Herring
Fifth Grade Teacher

We were a little unclear . . . about where [on the calendar] the assignments were supposed to be written—we all had a different interpretation of the book. Some people were writing the assignments on the day that they were given and some people were writing them on the day that they were due.

Alice Richeson
Third Grade Teacher

I would like to see it developed on a second grade level. Granted, it'd be even more basic, but I think we need to go back and start younger.

Romeyn Foy
Third Grade Teacher

Research Support

The developers of *Skills for School Success* field-tested their program extensively in schools in Arizona, Washington, California, and Oregon. During the field-testing, Archer and Gleason obtained verbal feedback from practitioners regarding the program and also gave students post-tests on the skills taught in the program. Using this process over a period of eight years, Archer and Gleason refined and fine-tuned the program. While the only research conducted on *Skills for School Success* as a total program is not published, the program is built, in large part, on strategies for teaching study skills successfully tested by other researchers. Some of this research is outlined in Exhibit 7.2.

I find the calendar very effective, but I think that maybe there needs to be a little more instruction for parents on it. . . . Some of the parents . . . still don't get the main idea of what we're doing, or what we're trying to do—how we're trying to teach the child to use this as an organizational tool.

Mary Burge
Fourth Grade Teacher

Exhibit 7.2: Selected Research Supporting *Skills for School Success*

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Adams, Carnine, & Gersten	1982	Isolated room in school	45	N/A	5
Chan & Cole	1986	N/A	72 (36 LD)	— / 10-12	N/A
Dawson, Hallahan, Reeve, & Ball	1980	N/A	100 (LD)	11 / 8-13	3-6
Gelzheiser, Cort, & Shepherd	1987	N/A	60 (30 LD)	— / 9-12	N/A

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
Systematic instruction in a study strategy; independent seatwork with teacher feedback	Independent retelling and short answer test of content of social studies passage	Group	Systematic instruction on the study skill produced higher scores on immediate and posttest short answer tests
Training in metacognitive strategies (self-questioning regarding content, underlining pertinent words, self-questioning and underlining) or reading and re-reading (control)	Story comprehension	Group	For students with LD (but not non-LD students) self-questioning, underlining, and self-questioning and underlining combined produced higher scores on comprehension tests than did reading and re-reading
Training in verbal rehearsal strategy; reinforcement for correct responses; training in verbal rehearsal and reinforcement for correct responses; older versus younger children	Selective attention efficiency (central versus incidental recall)	Group	Verbal rehearsal combined with reinforcement produced the most efficient selective attention recall; verbal rehearsal alone also produced efficient selective attention recall; reinforcement alone caused recall to be less efficient than no intervention; older students had more efficient selective attention recall than younger students
Instruction in a categorization strategy	Organization, ability to recall individual items in a category, and total recall	Group	Instruction in categorization strategy resulted in somewhat greater use of that strategy, with mixed results on post-test recall

(continued)

Exhibit 7.2: Selected Research Supporting *Skills for School Success* (continued)

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Scruggs, Mastropieri, & Tolfa-Veit	1986	N/A	85 (44 LD and 41 BD)	N/A	4-6
Wong & Jones	1982	N/A	120 (60 LD)	14 (LD group) 12 (non-LD group) / —	8-9 (LD group) 6 (non-LD group)
Wong, Wong, Perry, & Sawatsky	1986 Study 1	N/A	5 (1 LD/ADD)	12 / 12	7
Wong, Wong, Perry, & Sawatsky	1986 Study 2	N/A	3 (1 LD)	— / 15-16	8

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
Training in test-taking skills relevant to the Stanford Achievement Test	Test scores (reading comprehension, word study skills, math concepts, math computation, math applications)	Group	Training in test-taking skills improved the performance of students with either LD or BD on tests of word study skills (reading decoding); training was beneficial for students with BD
Training in self-questioning skills in reading comprehension	Identification of important ideas; reading comprehension and general recall; time required to complete assignments	Group	Training in self-questioning skills improved the performance of students with LD on identification of important ideas and reading comprehension, but not in general recall; treatment did not affect the performances of the younger, normally achieving group
Instruction in summarizing simple and complex paragraphs	Summarization and recall; use of strategy; students' modification of strategy	Single-subject	Training in summarization increased students' abilities to summarize and recall information; four of the five students modified the strategy to meet their own needs
Instruction in summarizing simple and complex paragraphs	Summarization and recall; use of strategy; students' modification of strategy	Single-subject	Training in summarization increased students' abilities to summarize and, to a lesser extent, recall information; all students modified the strategy to meet their own needs

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Chapter Eight

Aggression Replacement Training

I would describe **Aggression Replacement Training** *as a program that allows you to teach some specific skills to children for dealing with appropriate social behavior and anger control, and to perhaps change their thinking about how they interact with other people. . . . We punish children, we give them consequences, we give rewards, but often, we don't take the time to teach them how to behave appropriately. We don't model it for them. In this program, we model for them and they practice, so it's specifically teaching children what they need to do.*

Peg Dwyer
Elementary School Principal

The Purpose

Arnold Goldstein and Barry Glick are the primary developers of *Aggression Replacement Training (ART)*. They developed the program to fill a void, as they describe:

> Counselors and others who deal with aggressive adolescents or juvenile delinquents understand that these youngsters often have developed acting-out behaviors in combination with substandard and deficient alternative prosocial behaviors. Many of these young people are skilled in fighting, bullying, intimidating, harassing, or manipulating others; however, they are inadequate in more socially desirable behaviors such as negotiating differences, dealing appropriately with accusations, and responding effectively to failure, teasing, rejection, or anger .... Aggression replacement training (ART), our response to this behavior deficit perspective, is a multimodal, psychoeducational intervention. The primary ART trainers for clients are counselors, teachers, child care workers, and others who have direct care responsibilities for youngsters commonly labeled as juvenile delinquents or aggressive. The intervention is made up of ... three components, each a minimum 10-week-curriculum, in which groups of youngsters participate. (Glick & Goldstein, 1987a, pp. 356-57)

The three components of *ART* are Structured Learning, Anger Control, and Moral Reasoning (or Moral Education):

> [Delinquents] rather characteristically are weak or lacking in much of the broad array of personal, interpersonal, and social-cognitive *skills* that collectively constitute effective prosocial behavior. Their not infrequent impulsiveness and overreliance on aggressive means for goal attainment frequently reflect deficiency in *anger control*. In the cognitive realm,

The *Aggression Replacement Training* curriculum—all three components—the Structured Learning Therapy, Moral Education, and the Anger Control—help staff develop a common language with the kids so they can address issues around how they deal with peers, how they deal with adults, and how they manage their own behavior.

Marshall Kuhns
Group Home Administrator

> chronically delinquent adolescents have been shown to characteristically reason at the more egocentric, concrete, and, in a sense, more primitive levels of *moral reasoning*. Our overriding belief in selecting the individual interventions that as a group constitute Aggression Replacement Training (ART) was that it was these three core deficiencies to which we optimally should respond. (Goldstein & Glick, 1987, p. 13)

A teacher and supervisor who works with delinquent adolescents summarizes his view of the purpose of *ART*:

ART stresses teaching prosocial skills to kids, and also giving them the knowledge and actual ways to reduce their anger. First of all, we want to teach kids how to reduce the anger that they come in with, and we have a class called Anger Control that does that. We also have a class that teaches how to handle moral dilemmas, which is our Moral Reasoning class. Another class, called Structured Learning, teaches specific prosocial skills, such as saying "thank you" and sportsmanship after a game, by giving specific steps in dealing with what Dr. Goldstein and his colleagues feel are the 50 most important prosocial skills. These things work in conjunction with each other to help the kids . . . develop the skills necessary to deal with some of the problems that, in the past, they would have used physical aggression to deal with.

Paul Fiore
Education Supervisor/Teacher

The Structure and Content

Thus, *ART* addresses three separate realms: Structured Learning addresses behavior, Anger Control addresses affect, and Moral Reasoning addresses moral development. *ART* lessons are designed to be used with groups of six to ten students with two leaders.

Goldstein and his colleagues believe that to be effective an intervention must be multimodal. This belief helped shape *ART*:

> There is one further, albeit somewhat more abstract reason underlying the choice of Structured Learning Training, Anger Control Training and Moral Education as our intervention package. We believe that interventions will be successful, for transfer-enhancement purposes in particular, to the degree that they are multi-modal. Behavior change in our view may result from interventions which are explicitly targeted on overt behavior, or which seek to diminish emotional responses which inhibit use of behaviors already in the person's behavioral repertoire, or which provide information about the consequences of alternative behaviors. . . .Which, and how many, of the alternative intervention routes will correspond to any given youngster's channels of accessibility will obviously vary from youngster to youngster. We believe, however, that it generally will prove efficacious to take more than one route simultaneously. (Goldstein et al., 1986, p. 123)

ART is founded on many different theoretical bases. Structured Learning derives from the psychological skills movement and the notion that desirable behaviors can be taught. Bandura's social learning theory is especially instrumental to this line of thought. Anger Control Training relies heavily on work of Luria regarding internal speech and Meichenbaum regarding self-regulatory skills. The Moral Reasoning component derives directly from Kohlberg's research regarding moral development. The following three sections describe the components as they are implemented in ART.

Structured Learning

Goldstein and Glick (1987) explain how they chose the 10 Structured Learning skills used in *ART*:

> The 10 Structured Learning skills used in ART were modified from *Skillstreaming the Adolescent* (Goldstein et al., 1980). These skills, listed below, were selected on two bases. First, in our collective experience with delinquent youth, these are

skills typically quite weak or lacking. Second, the use of these skills as training curricula in many Structured Learning groups reveals this set of skills to be motivating and participation-enhancing for the large majority of trainees. . . .

1. Expressing a Complaint
2. Responding to the Feelings of Others (Empathy)
3. Preparing for a Stressful Conversation
4. Responding to Anger
5. Keeping Out of Fights
6. Helping Others
7. Dealing with an Accusation
8. Dealing with Group Pressure
9. Expressing Affection
10. Responding to Failure (p. 38)

Although *ART* focuses on these 10 skills, *Skillstreaming the Adolescent* includes a total of 50 specific skills, any of which are appropriate for Structured Learning lessons.

Structured Learning lessons use roughly the same format from lesson to lesson. First, one or two of the leaders (teacher, counselor, etc.) model several examples of the particular skill being taught that day. Then, with the leaders' guidance, the students role-play a particular scenario wherein they practice the skill. The leader then provides constructive feedback to the students regarding their performance. Finally, students and leaders collaborate and use a variety of methods in order to facilitate transfer of the skill to the "real world" (Goldstein & Glick, 1987).

Skill number one [from *Skillstreaming the Adolescent*] in Structured Learning is listening—making eye contact, waiting to speak. It seems so basic and so simplified. Some of the students we have here are age-appropriate and reading at the twelfth-grade level and you think, "Oh my goodness, I'm going to have them in a class and we're going to talk about listening skills." Guess what—they need it, too.

Sue Carollo
Special Education Teacher

The first of 10 Structured Learning skills in *ART* is "Expressing a Complaint." This skill is typical in that it is reduced to its component steps:

1. Define what the problem is and who is responsible for it
2. Decide how the problem might be solved
3. Tell the person what the problem is and how it might be solved
4. Ask for a response
5. Show that you understand his/her feelings
6. Come to agreement on the steps to be taken by each of you. (Goldstein & Glick, 1987, p. 64)

A teacher describes the process briefly:

For the prosocial [Structured Learning] skills, we draw on our discussion time, where we talk about where and when we might use the skill—the more examples we can get out of their daily lives the better. . . . We get really specific examples of where they've tried to [use a skill] and we write them all down, and then we role-play them. We model for them.

Pat Prager
High School Alternative Program Teacher

Anger Control Training

Anger Control Training complements Structured Learning:

> We began constructing ART by asking ourselves why it might typically be the case that youths who had learned new prosocial skills failed to use them in real-world settings. After all, they now knew (from their participation in structured learning) what to do instead of aggression and how to do it. Why were they not doing so? One possible answer seemed to

be that their fuses were too short, their anger arousal thresholds were too low, their prior rewarded practices of anger and aggression too extensive, and thus aggression, not a newly learned, prosocial skill, was the near-automatic response to provoking circumstances. It therefore seemed reasonable that the second component of ART added to structured learning be a procedure designed to reduce the level of the youth's anger arousal. Anger control training is a set of procedures designed explicitly for this purpose. (Glick & Goldstein, 1987b, p. 41)

Goldstein et al. (1986) provide more detail regarding Anger Control Training:

> Anger Control Training—in contrast to Structured Learning's goal of prosocial behavior facilitation—teaches the inhibition of anger, aggression and, more generally, antisocial behavior. By means of its constituent components, e.g., identification of the physiological cues of anger and external triggers or instigators, self-statement disputation training, refocusing anticipation of consequences, and so forth, chronically angry and aggressive youth are taught to respond to provocation (others and their own) less impulsively, more reflectively, and with less likelihood of acting-out behavior. In short, Anger Control teaches youngsters what not to do in anger-instigating situations. (Goldstein et al., 1986, p. 123)

Roughly outlined, during each lesson, the leaders model the skill, then the students role-play the skill, and finally, the leaders give the students feedback regarding their performance of the skill. Exhibit 8.1 presents a general overview of the recommended 10-week course of Anger Control Training.

Today we role-played the "button" or the "trigger" and then we role-played either counting or deep breathing. They made a wonderful list of phrases that you can say to yourself, like "chill-out" and "cool down" to use as cues and reminders.

Nancy Reindl
Elementary School
Guidance Counselor

(continued on page 176)

Exhibit 8.1: *ART* 10-Week Course: Overview

Week 1: Introduction

1. Explain the goals of Anger Control Training and "sell it" to the youngsters.
2. Explain the rules for participating and the training procedures.
3. Give initial assessments of the A-B-Cs of aggressive behavior: (A) What led up to it? (B) What did you do? (C) What were the consequences?
4. Review goals, procedures, and A-B-Cs; give out binders.

Week 2: Cues and Anger Reducers 1, 2, and 3

1. Review first session.
2. Introduce the Hassle Log.[1]
3. Discuss what to do when you know you are angry (cues).
4. Discuss what to do when you know you are angry.
   - Anger reducer 1: deep breathing
   - Anger reducer 2: backward counting
   - Anger reducer 3: pleasant imagery
5. Role play: cues + anger reducers.
6. Review Hassle Log, cues, and anger reducers 1, 2, and 3.

[1]A Hassle Log is a written description of an anger-inducing situation that a student has experienced recently.

Week 3: Triggers

1. Review second session.
2. Discuss understanding what makes you angry (triggers).
   - External triggers
   - Internal triggers
3. Role play: triggers + cues + reminders + anger reducer(s).
5. Review reminders.

Week 4: Reminders (Anger Reducer 4)

1. Review third session.
2. Introduce reminders.
3. Model using reminders.
4. Role play: triggers + cues + reminders + anger reducer(s).
5. Review reminders.

Week 5: Self-Evaluation

1. Review fourth session.
2. Introduce self-evaluation.
   - Self-rewarding
   - Self-coaching
3. Role play: triggers + cues + reminders +anger reducer(s) + self-evaluation.
4. Review self-evaluation.

(continued)

Exhibit 8.1: *ART* 10-Week Course: Overview (continued)

Week 6: Thinking Ahead (Anger Reducer 5)

1. Review fifth session.
2. Introduce thinking ahead.
   - Short- and long-term consequences
   - Most and least serious consequences
   - Internal, external, and social consequences
3. Role play: "if-then" thinking ahead.
4. Role play: triggers + cues + reminders + anger reducer(s) + self-evaluation.
5. Review thinking ahead.

Week 7: The Angry Behavior Cycle

1. Review sixth session.
2. Introduce the Angry Behavior Cycle.
   - Identifying your own anger-provoking behavior
   - Changing your own anger-provoking behavior
3. Role play: triggers + cues + reminders + anger reducer(s) + self-evaluation.
4. Review the Angry Behavior Cycle.

Week 8: Rehearsal of Full Sequence

1. Review seventh session.
2. Introduce using new behaviors (skills) in place of aggression.
3. Role play: triggers = cues + reminders + anger reducer(s) + SL skill + self-evaluation.

Week 9: Rehearsal of Full Sequence

1. Review Hassle Logs.
2. Role play: triggers + cues + reminders + anger reducer(s) + SL skill + self-evaluation.

Week 10: Overall Review

1. Review Hassle Logs.
2. Recap anger control techniques.
3. Role play: triggers + cues + reminders = anger reducer(s) + SL skill + self-evaluation.
4. Reinforce for participation and encourage to continue.

Source: Goldstein, A. P., & Glick, B. (1987). *Aggression replacement training: A comprehensive intervention for aggressive youth.* Champaign, Illinois: Research Press.

An elementary teacher explains the value of Anger Control:

This program provides the kids with a method to use to keep themselves from exploding. Most of these kids know that they explode quickly. But they don't know what to do about it. I think that one of the reasons that they react so well to it is that somewhere inside they want to have better control; it's just that they don't know how to go about it. Because they've been without it for so long, it takes a while for them to learn how to use it, and for them to be able to trust the system to work. I think they want to be able to control their anger, and this is providing them with a way to do it.

Carol Lamb
Chapter 1 Reading Teacher

Moral Reasoning

Moral Reasoning is the third *ART* component:

> Armed with both the ability to respond to the real world prosocially, and the skills necessary to stifle or at least diminish impulsive anger and aggression, will the chronically acting-out youngster in fact choose to do so? To enhance the likelihood that such will in fact be his frequent choice, one must enter, we believe, into the realm of moral values. (Goldstein et al., 1986, p. 123)

Having participated in both structured learning and anger control training, the youth is armed, respectively, with both what to do and what not to in aggression-instigating circumstances. Yet, because aggressive behavior is so consistently, immediately, and richly rewarded in many of the real-world settings in which youths live, work, go to school, or interact, they may still consciously choose to behave aggressively. Thus, it was important to add a values-oriented component to the intervention approach we were building and evaluating. The final component of ART, therefore, is moral education, a set of procedures designed to raise the youth's level of moral

reasoning toward less egocentricity and higher levels of fairness, justice, and concern with the needs and rights of others. (Glick & Goldstein, 1987b, pp. 41-42)

Goldstein & Glick (1987) explain what moral dilemma discussion groups entail:

> Adolescents are exposed to different ways of thinking about moral issues. In these discussions, trainees are asked to explain the reasoning leading to the position they have chosen. In this way, group members are exposed to different stages of moral reasoning (i.e., different rationales underlying behavioral choices made by trainees operating at different levels of moral reasoning). Exposure to advanced (usually one stage higher than the youngster's own reasoning stage) reasoning stages creates confusion called cognitive conflict, or disequilibrium, that may contribute to the trainee's attainment of a higher level of moral reasoning as a means of resolving the conflict. Exposure to more advanced reasoning stages also provides trainees with the opportunity to take on the role of another person (i.e., to put oneself in someone else's shoes). In sum, there are at least three basic principles involved in enhancing moral reasoning development that form the basis for the specific procedures used in dilemma discussion groups: (1) exposure to the next higher stage of moral reasoning, (2) inducement of confusion over genuine moral dilemmas, and (3) opportunity to take on the role of another person. Dilemma discussion groups can be applied to many moral issues, including the values of life, property, law, truth, affiliation, authority, contract, conscience, and punishment. (p. 126)

The goals of moral reasoning are not to brainwash and indoctrinate students, but to (1) increase the moral reasoning stage of the adolescent and (2) help the adolescent use newly learned and more advanced reasoning skills in the real world.

It is important to note what dilemma discussion groups are not. First, this method does not involve "indoctrination" or the teaching of any specific values or beliefs. The trainer should *never* attempt to force trainees to accept his personal values. Rather, this method is aimed at self-discovery and helping adolescents develop the effective problem-solving skills needed to arrive at their own solutions to moral conflicts they may be faced with in life.

(Goldstein & Glick, 1987, p. 126)

A trainer conducts a moral dilemma discussion group by following these steps:

Step 1: Form small groups of trainees at two to three consecutive stages of moral reasoning.

Step 2: Choose and prepare moral dilemma situations that will induce cognitive conflict and that are relevant to the trainees.

Step 3: Create the proper set by explaining to the trainees the rationale for dilemma discussion groups, what they will be doing, what the trainer's role is in the group, and what guidelines to follow for participation in the group discussion.

Step 4: Begin the discussion by presenting the dilemma, getting initial opinions and rationales from the trainees, and then creating a debate between the lowest reasoners and those one stage higher (noted as +1 stage).

Step 5: Guide discussion through all the stages represented by group members (e.g., start with a debate between Stage 1 and Stage 2 and Stage 3 reasoners, then structure a debate between Stage 2 and Stage 3 reasoners, and so on if more than three levels of reasoning are represented), creating cognitive conflict for as many trainees as possible. Then present a +1 stage argument for the group to discuss (e.g., if the highest stage represented in the group is Stage 3, then present a Stage 4 argument).

Step 6: End discussion following the debate of the highest-stage arguments or when all the major issues and important differences of opinion have been addressed. (Goldstein & Glick, 1987, pp. 142-143)

A counselor who works in a facility for delinquent youth describes Moral Reasoning in practice:

We do Moral Reasoning with 12 or 13 kids. It works better with this larger group because you get more opinions, more ideas, and it generates a lot more discussion. The more different opinions you have, the better chance for a lot of discussion and pulling kids up to the higher levels. You try to run that group with two facilitators—one person who leads the discussion, and another who does the "staging." We "stage" our young people's answers depending not so much on the yes or no but how they get to that answer, how they reason that out. It's a type of group that the kids find really relevant to what they're doing. They really get a chance to express themselves, and it gives them an opportunity to see what other people are thinking—not everybody thinks like I do. If it's done correctly, it has a positive effect on the group.

Aaron Gregory
Counselor

The Moral Reasoning component offers 31 dilemmas with topics ranging from organ transplants to Nazi atrocities, and practitioners are encouraged to introduce topics relevant to their particular situations.

Target Population

ART was originally developed for use with aggressive, delinquent adolescents, but:

> Largely or entirely irrelevant to the selection decision are most of the usual bases for treatment of training selection decisions. If the clients are skill deficient and possess a few very basic group participation skills, we are largely unconcerned with their age, sex, race, social class, or, within very broad limits, even their mental health. At times we have had to exclude persons who were severely emotionally disturbed, too hyperactive for the 30-minute session, or so developmentally disabled that they lacked the rudimentary memory and imagery abilities necessary for adequate group participation. But such

Many of these children are at a stage of moral development that does not allow them to think beyond the fact that someone did something to them and so they have to do it back. That's where most of them are. So, along with the skills that they need in order to know how to handle a situation appropriately, they also need [skills] in order to change their attitude about what the interactions are between them and another person.

Peg Dwyer
Elementary School
Principal

persons have been relatively few and far between. (Goldstein & Glick, 1987, p. 37)

Although *ART* began as a program attempting to mitigate the undesirable behaviors of aggressive or delinquent adolescents, the program has been used with adult psychiatric patients, spouses in abusive relationships, child-abusing parents, and younger children (Goldstein, 1988).

Implementing *ART*

Goldstein and Glick (1987) recommend that people wanting to teach *ART* participate in workshops where the skills to be taught are actually practiced. Each component of *ART* is covered in a separate two-day workshop and, within a school, different staff may attend the different workshops.

As an administrator describes, in a group home setting, where staff have many years of experience with ART and can provide supervision and support to others who are learning, a shorter period of formal training for new staff is necessary:

We have a training curriculum. We can teach somebody to run Anger Control groups in one day, one eight-hour session. We can teach somebody to do Structured Learning Therapy in one day, one six-hour session. We can teach people to do Moral Reasoning classes in a day and a half, 12 hours. [How long before they get good at it] depends on a lot of variables—such as how much skill, ability, and insight the person has before you train them. And how many groups they get to run (practice sessions). And how good the other people you were training with them were at coaching and teaching one another. After that, it really depends on the person who is going to monitor the groups that person does—you always try to get somebody who is good at running groups and has run those groups before to do it with a new person as a co-trainer and let that person take the lead. . . . After somebody has done the

[Structured Learning] is exactly like teaching, especially if you're teaching special ed. It's a step-by-step sequential pattern. If you actually follow the way it's taught to you, there's nothing to it. The kids come in, they sit down, you read it together, you talk about the meaning of it, you model it. It's the same every time you have that class. Just the skill changes.

Sue Carolla
Special Education Teacher

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10-week Anger Control session once with somebody else, and 10 SLT skills and 10 Moral Reasoning dilemmas, they're good and can run groups on their own in Moral Reasoning and Structured Learning Therapy. But they have to do two 10-week Anger Control groups—it's the hardest one to learn because each session is different.

Marshall Kuhns
Group Home Administrator

A supervisor describes the need for periodic refresher training:

We try to do a review at least annually of an hour or two just to make sure that we're not starting to dilute any parts of the program or erode any of the initial practices that we were taught, because at every step it's important that you do it the way you were taught. If you don't do refresher training people start to cut corners or forget a little step here and there.

Paul Fiore
Education Supervisor/Teacher

We spent two full days [in training]. We went through the entire program. We did sample lessons. We actually taught lessons with each other—we modeled the lessons and had some experience in doing them.

Peg Dwyer
Elementary School Principal

Testimonials of Effectiveness

A later section of this chapter presents the research evidence in support of *ART*. Below, school-based educators and other practitioners provide anecdotal evidence of the program's effectiveness:

The ART program itself is not a panacea. It is not the only answer to the kinds of problems that we're talking about. But it's certainly one part of the intervention. We still need to do the other things that assist kids, like the nurturing that we do. It's a good intervention that's worth the time if you can get the commitment from the staff. It's worth the time that goes into it. We've seen some results from some of our youngsters, but there are other interventions that also come into play. We would not say that this program is totally responsible for the progress that we've seen, but it's one important ingredient.

Lowell Lilly
Elementary School Principal

The Anger Control—I can't say enough for it. We have students who come in here—especially the special ed students—who say, "I never knew there was any way to control my anger; I didn't realize other people had all this anger inside of them, too."

Sue Carollo
Special Education Teacher

I initially had my doubts. We'd seen a lot of programs come and go. When I first looked at it, I didn't think it would fly. I thought, how would you teach kids 16 years old to say thank you? Everybody knows how to say thank you. But I was overestimating their skills. They didn't know how to say thank you. It wasn't just that they were being macho and didn't want to, they didn't know quite when it was appropriate, and, when they felt it was, how to go about doing it.

Paul Fiore
Education Supervisor/Teacher

I had a situation this morning, for example. I teach the component of Anger Control and one of the boys had a really difficult time in our latchkey program. The teacher brought the boy to me and explained to me what had happened this morning. I was able, then, to really talk him through what he needed to do. We did a hassle sheet. We talked about what had happened, and what would happen the rest of the day, because he's a child who—once he gets into that mode—may carry it out all day long. I'm really happy because he's made it through the day without letting that affect him. He's managed to keep his behavior under control in the classroom. He hasn't gotten into an aggressive situation, at least up to this time! . . . We talked about, "Did he look for the cues for his anger? Did he think about anger reducers? Did he give himself some self-talk?" So we talked through the entire thing.

Peg Dwyer
Elementary School Principal

I hear kids talking about it with each other, with staff, with their parents, with their teachers in school. Kids telling each other, "Use you're anger control, don't get angry, calm down, relax, take a deep breath, count backwards, use pleasant imagery." I hear them saying that language and talking to each other. Because that common language has been developed, kids are saying it to each other, and staff are saying it to them, I see it working in practice. How much good it's going to do six months down the road, a year down the road, with all of our kids, I don't know. I think our youths internalize some of the ART skills—however, their support to use them in their home environment is frequently lacking. I see it making this house much more stable behaviorally.

They may not be able to list 20 or 25 skills, but what they've grasped is the concept that "before I fight, I have some skills and I know that the one thing I need to do is stop and give this some thought. Is there another way I can deal with this?" It's really putting on the brakes. Before, they were very impulsive. It puts on the brakes to the impulsiveness.

Paul Fiore
Education Supervisor/
Teacher

I see kids getting along with each other better. I see problems that used to be big issues—constant daily hassles burning staff out—I've seen them decrease. Where we used to have 10 issues in a month, now we have one, maybe two, where staff have to physically get between kids to keep them from fighting. It used to be an everyday occurrence here.

Marshall Kuhns
Group Home Administrator

Among their friends they may have been less tolerant before—ART gives them a little option to think about things. I can see that some of that stuff is working on them. With their families (there's a lot of domestic violence right on their own home fronts), they'll talk it out a little bit more with their brothers, or their fathers, or their mothers. You see evidence of that on their home visits. After they come back [to the group home], we call the families and ask how the visit went. They report that he's not cursing as much or he's a little more respectful. I can't attribute everything to ART, but you can tell that there are some measurable results.

Kurt Frazier
Counselor

There's a pre- and post- [assessment of the students'] understanding of their skill and then there's a pre- and post- sent to the school, so I do think that there's actual evidence that kids who were in trouble have managed to stay out of trouble longer.

Mary Buttice
Alternative Classroom Teacher

The concreteness of it is something that comes to my mind. The kids have something that they can hold on to. Subtleties are not part of their modus operandi and this [program] is very concrete. Another strength is the role playing and the practice.

Nancy Reindl
Elementary School Guidance Counselor

You can almost watch the wheels turning in some of the Moral Reasoning sessions. Whether they agree or disagree, they're hearing what's being said.

That really surprised me—how the kids wanted to participate with the role-playing. Maybe it's my own hang-ups. When I was a kid I wouldn't have wanted to get up and act in front of a class, but they all really want to.

Carol Hemmersmeier
Elementary School
Resource Teacher

Their value system is being challenged constantly, and those street values have to be challenged. They get challenged by us often, so it gets to be old hat. But when another kid turns around and says, "Wait a minute, why would you do that?"—it's a lot better.

Aaron Gregory
Counselor

ART and Students with ADD

Practitioners express the applicability of *ART* to the instruction of children and youth with ADD:

What I notice about these children is that they are not particularly well structured. They are not self-disciplined. So I see the regiment of this type of program as being good because they need that structure. They need something that gives them specific things to do, exactly how to do it, exactly how to practice it, and then continuous reinforcement for what they're doing. . . . If we don't [intervene with these children] early, we're not going to be doing much of any other kind of teaching for them. They are going to be focused on who looked at them the wrong way, who bumped into them in the hall, or who hit them on the playground.

Peg Dwyer
Elementary School Principal

The trust of adults was a big issue for [a student with ADD], and he made all kinds of progress in that area . . . . We worked very hard with him last year. We had a complete turnaround where that was concerned. He improved greatly and the outbursts and the anger really subsided.

Nancy Reindl
Elementary School Counselor

All of our kids have a problem sitting and listening to somebody, participating, concentrating on any topic for any length of time, or remembering what they're told. So anything you can do with them that's hands-on, interactive involvement—getting them up on their feet, talking, role playing, interacting with other people, making them do something so they don't have to sit still, read, write, or listen to a lecture—you're heading in the right direction. It's very participatory. They've got to get up and role model and demonstrate a particular skill, and it's something that is usually very relevant to them because they deal with it every day of their life.

Marshall Kuhns
Group Home Administrator

The kindergarten teacher has known [student with ADD] since kindergarten, and there was a problem with [him and] one of the little kindergartners. . . . He told her in a very calm voice what the problem was, and his side of the story. She couldn't believe it! If he had been accused of something [when he was little], he would not have been rational enough to make sense out of anything.

Carol Hemmersmeier
Elementary School Resource Teacher

We're dealing with kids whose behaviors are impulsive. They have very few useful social skills. They don't think before they act. ART *teaches kids a skill to actually think through their anger. Many of our kids are very assaultive. Teaching Anger Control gives kids something to focus on and use. . . . Kids with attention deficits are able to use* ART. *It has changed their behavior. But we also have a very strict environment in terms of rules. We don't let things slide. Once they know that that's the kind of environment we have, and on top of it you're teaching them the* ART *skills, they end up using those skills.*

Nate Hacker
Youth Facility Director

Some Limitations

Practitioners also comment on the areas where they see *ART* as having limitations:

Sometimes I think that the models seem artificial. But [we did a lesson on] "Dealing with an Accusation" and the kids had all kinds of examples of things they had been accused of. . . . By pulling from those examples for their role plays, they were able to work their way through the steps on dealing with the accusation.

Pat Prager
Teacher in Alternative Class

From the principal's perspective, getting the staff to buy into [the program] and understand what you're doing is not always that easy to do because some staff like to see more direct, immediate results.

Lowell Lilly
Elementary School Principal

I don't think you can put this program in where you're having a lot of problems. You're putting the cart ahead of the horse. Students have to understand that there are certain expectations—we have to take our turns and hear each other out. It's not an argument.

Aaron Gregory
Counselor

A lot of us aren't comfortable with role playing. It's not something we grew up doing very much. I think that we need to get over some of our hang-ups about it before we can be convincing with children.

Nancy Reindl
Elementary School
Guidance Counselor

ART is not the answer to behavior problems or attention deficits. . . . The school has to have a structure to deal with behavior problems and have control of kids' behaviors. If behavior is not under control, it's going to be very hard for ART to change all that. . . . Kids have to feel safe and secure.

Nate Hacker
Youth Facility Director

When somebody calls someone a name, there needs to be a [procedure to say] stop, let's take a look, what should we be doing, what are the steps, let's practice right now. You don't get very far academically doing that, but that's the way the whole thing (I think) should work.

Mary Buttice
Alternative Class Teacher

I don't think that it would hurt to have the people do the role playing [during training] and work through it and know what they're getting into. There are some people who aren't comfortable with those kinds of things. That's why I say that I think it's critical when you choose the personnel who are going to do it. I don't think it's the kind of program that you can "wholesale out."

Peg Dwyer
Elementary School Principal

Research Support

Exhibit 8.2 presents research support for *ART*. Two studies conducted in the mid-1970s (Bornstein & Quevillon, 1976; Douglas, Parry, Marton, & Garson, 1976) showed that self-reinforcement and self-instruction/cognitive-behavioral training, similar to the Anger Control

component of *ART*, resulted in gains in time on-task, and in improved impulsiveness, aggression, and coping strategies. The study by Gibbs, Arnold, Ahlborn, & Cheesman (1984) showed that small group discussion of sociomoral dilemmas can result in advances of sociomoral stages of reasoning for those participants who began at a low stage. Although the effectiveness of *ART* for students with ADD has not been studied, the two studies by Glick and Goldstein addressed characteristics (e.g, impulsiveness) that are directly relevant for students with ADD. These studies indicated that *ART* resulted in fewer and less severe acting out behaviors, lower ratings of impulsiveness, and relatively better community functioning. These studies are outlined in Exhibit 8.2.

Contact for More Information

For more information on *ART* contact:

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Rensselaer, NY 12144

Exhibit 8.2: Selected Research Supporting *Aggression Replacement Training (ART)*

Authors	Year	Setting	Number of Subjects	Age of Students Mean / Range	Grade
Bornstein & Quevillon	1976	Head Start facility	3	4 — 4-4	N/A
Douglas, Parry, Marton, & Garson	1976	Clinic	29	8 — 6-10	N/A
Gibbs, Arnold, Ahlborn, & Cheesman	1984	Youth detention centers	60	16 — 14-18	N/A
Glick & Goldstein	1987a (Study 1)	Residential facility for adjudicated boys	60	-- — 14-17	N/A
Glick & Goldstein	1987b (Study 2)	Residential facility for adjudicated felons	51	18 — 13-21	N/A

Relevant Factors Studied	Outcome Measures	Study Design	Relevant Findings
Self-reinforcement, self-instruction/cognitive-behavioral training	Time on-task	Single-subject	Cognitive training/self-instruction produced large gains in on-task behavior
Self-reinforcement, self-instruction/cognitive-behavioral training, parent training (informational and behavioral strategies), teacher training (child self-management)	Sustained attention, activity level, disruptive behavior, impulse control, aggression	Group	Self-instruction training combined with parent and teacher training improved scores on tests of impulsivity, aggression, coping strategies, and listening comprehension, but teacher rating did not show treatment effect
Small group discussion of sociomoral dilemmas	Kohlbergian level of sociomoral reasoning	Group	Small group discussion of dilemmas resulted in a significant gain in sociomoral reasoning stage for those subjects who began at a low stage
ART, brief instruction regarding validity of skills (motivation enhancement)	Acting-out behavior, impulsivity, prosocial behavior, moral reasoning, in-community functioning	Group	*ART* resulted in a reduction in the number and intensity of acting-out behaviors, and in ratings of impulsivity; compared to control conditions, *ART* resulted in better ratings of in-community functioning after release
ART, brief instruction regarding validity of skills (motivation enhancement)	Acting-out behavior, impulsivity, prosocial behavior, moral reasoning, in-community functioning	Group	*ART* resulted in increases in prosocial behavior, in improved ratings of impulsivity, and in increases in moral reasoning ability

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Chapter Nine

Life-Centered Career Education

The goal of LCCE *is to prepare children for life. Not all kids will go to college and not all kids will get a professional career, but all of us need those skills taught [in* LCCE*]. We need those basic life skills to survive and be independent. I think* LCCE *teaches those skills.*

Henrietta Lee
Middle School Special Education Teacher

The Purpose

The *Life-Centered Career Education* (*LCCE*) curriculum, designed and developed by Donn Brolin at the University of Missouri-Columbia, promotes the development of skills that students will need to succeed in life after graduation. While vocational education and career education are certainly related, the purpose of *LCCE* is not to provide students with vocation-specific skills, but instead, to provide students with more general and transferable skills that will apply to all aspects of adult life. Brolin and West (1985) comment on the difference between vocational education and career education:

> Unlike vocational education, career education focuses on *all* the productive work roles that students will need to perform as adults, i.e., in the home as a family member, in the community as a citizen. Preparation for employment, although an important goal of career education, is only one of several goals. (p. 29)

Brolin (1992) further explains the rationale behind developing a career education curriculum, especially for students with disabilities:

> Too many former special education students still experience employment problems after they leave school. This unfortunate circumstance has been documented in many studies and continues to confound many educators who believe they are providing an appropriate educational program for their students. Yet . . . too many educators continue to use the same old approaches, parents remain only minimally involved and committed, and community resources (including the service agencies) are not adequately utilized or are not participating with a cooperative, collaborative spirit.
>
> What happens to special education students when they grow up depends largely on the ability of educators and parents,

LCCE is an assessment and instructional package that identifies transitional needs, functional skills needs, and independent living needs. It's an assessment tool that can identify needs in those areas and it's an instructional package that can be used to address the deficits or the needs that the students have.

Pam Olson-Lorenz
IEP Manager

with support from community agencies and the employment sector, to give them the skills, understandings, and opportunities for becoming independent, productive, and happy adults. A systematically organized educational system that links these resources in a scope and sequence with content leading to successful adult function becomes paramount. (p. ix)

LCCE is not meant to supplant an academic curriculum, but rather, to enhance it. For instance, reading skills or math skills are easily taught within the context of *LCCE* lessons (Brolin, 1991).

LCCE is a program that deals with some basic skills for kids. It enhances their social skills, it provides them with . . . the mechanisms for learning who they are.

Donna Jones
High School Principal

The Structure and Curriculum

Brolin (1991) describes the appropriate position of *LCCE* within an entire educational program:

> The curriculum is based on the position that career education is more than just a part of the educational program—it is a major focus of the program. *[LCCE]* underscores this point with its emphasis on daily living skills, personal-social skills, and occupational skills, all supported by academic skills. This is not to imply that career education is the only education students should receive, but it should be a significant and pervasive part of what is taught. Career education is not simply another name for occupational education. Instead it is education focused on facilitating growth and development for *all* life roles. (p. 6)

The Life Centered Career Education Curriculum advances the belief that curriculum development should take place in the local school system. The success of curriculum alteration depends on the degree to which affiliated teachers are involved in determining curriculum changes. Grassroots participation of teachers in determining curriculum goals, objectives, and teaching strategies should provide a higher

quality career education program than a commercially developed and adopted program. A curriculum framework for teaching competencies is suggested; however, this framework has been designed to be easily modified to meet special needs in local settings. (p. 17)

The proposed competency based curriculum approach does not necessarily mean the abolishment of courses and structure currently operating in school programs. It does require, however, that instructional content be selected according to the ability for facilitation and student acquisition of the competencies. . . . It is important to remember that the role of the curriculum is to guide instruction, but not to prescribe the means. Therefore, each school system must decide how it can infuse the teaching of the Life Centered Education competencies into its curriculum. (p. 13)

The *LCCE* curriculum includes three distinct components: instructional domains, career development stages, and instructional settings.

The Instructional Domains

LCCE instruction is divided into three instructional domains—daily living, personal-social, and occupational skills—that are further divided into 22 competency areas.

Brolin (1991) provides the rationale behind the formulation of the three instructional domains:

> **Daily Living Skills.** Most special education students have the potential to become independent or semi-independent citizens. Most can become home managers or homemakers; they will marry and raise families. A large percentage will not make large salaries; thus, it is crucial that they learn how to manage a home, family, and finances as effectively as possible.

Personal-Social Skills. Developing independence, self-confidence, and socially acceptable behaviors and maintaining friendships are critical skills for students to learn if they are to adjust satisfactorily in the community.

Occupational Guidance and Preparation. Many people do not attain their true potential in the labor market. They are relegated to unskilled, low-paying jobs and become marginal workers. If people are to approach their true potential, they need to become more aware of diverse job possibilities, develop the necessary skills, be provided with varied work experiences, and learn to make logical and viable job choices as they move through the educational system. (pp. 6-8)

Exhibit 9.1 provides a listing of the competency areas within the instructional domains.

The 22 competency units are further divided into 97 subcompetencies. Brolin and his colleagues have written over 1,000 lesson plans that address the subcompetencies. These plans are available as part of the curriculum.

Career Development Stages

Brolin (1992) describes the relationship between the 22 competency areas and the second component of *LCCE*, the career development stages:

> The second component of the LCCE model is the four stages of career development. Instruction of the 22 competency areas is organized into a scope and sequence which begins with career/self-awareness and continues through career exploration and career preparation. The last stage, career assimilation, is intended to provide follow-along. (Brolin, 1992, p. xi)

(continued on page 197)

Exhibit 9.1: Competency Areas Within the Instructional Domains

Daily Living Skills

The competencies in the Daily Living Skills domain include:

1. Managing Personal Finances
2. Selecting & Managing a Household
3. Caring for Personal Needs
4. Raising Children & Meeting Marriage Responsibilities
5. Buying, Preparing, & Consuming Food
6. Buying & Caring for Clothing
7. Exhibiting Responsible Citizenship
8. Utilizing Recreational Facilities & Engaging in Leisure
9. Getting Around the Community

Personal-Social Skills

10. Achieving Self-Awareness
11. Acquiring Self-Confidence
12. Achieving Socially Responsible Behavior
13. Maintaining Good Interpersonal Skills
14. Achieving Independence
15. Making Adequate Decisions
16. Communicating with Others

Occupational Guidance and Preparation

17. Knowing & Exploring Occupational Possibilities
18. Selecting & Planning Occupational Choices
19. Exhibiting Appropriate Work Habits and Behavior
20. Seeking, Securing, & Maintaining Employment
21. Exhibiting Sufficient Manual Skills
22. Obtaining Specific Occupational Skills

Source: Brolin, D. E. (Ed). (1991). *Life-centered career education: A competency-based approach* (3rd ed.). Reston, Virginia: Council for Exceptional Children.

Brolin (1991) explains the importance of the career development component of *LCCE*:

> The development of a *work personality* (i.e., an individual's own unique set of abilities and needs) *begins shortly after birth* and matures sufficiently only if provided with early and adequate reinforcers in one's environment. Thus it is critical that schools and parents provide early the experiences and reinforcements that are necessary for appropriate career development and maturity to occur.
>
> One's *career is more than an occupation*. A career also includes the important unpaid work that one engages in at home and in various community functions. Thus, one's career is multifaceted, consisting of the productive work activity that one does in the home, in avocational pursuits, and as a volunteer for the benefit of the community, as well as any paid employment. For many handicapped individuals this concept is particularly important because at least half will be unemployed at a time, yet their need to work can still be realized. (p. 9)

The plans are already set up and laid out for you, and that's a lot of help to a teacher. It saves a lot of time and gives you more time to do the creative part of the lesson plan.

Henrietta Lee
Middle School
Special Education Teacher

The Instructional Settings

Because much learning occurs outside of the school environment, the third component of the *LCCE* curriculum also provides for instruction in and about the home and community:

> Career education promotes a partnership with parents and community resources whereby what is deemed important to learn about the world of work is taught beyond the confines of the school environment. In the process, parents and community members can become more aware and supportive of the school's program and objectives. (Brolin, 1991, p. 3)

I believe that it's the best tool there is for transition assessment because you look at knowledge, you look at performance, you look at the whole thing. . . . I think that [the best features of *LCCE*] are the comprehensive nature and the fact that it covers all domains, and primarily, because it assesses across settings.

Jimmy Lorenz
High School Psychologist

Assessment

In addition to the curriculum itself, Brolin has developed The *LCCE Inventory* which contains batteries designed to assess students' knowledge and performance of the competency areas. The *LCCE Inventory* consists of a Competency Rating Scale, a Knowledge Battery, and a Performance Battery, all of which address the competencies and subcompetencies in the *LCCE* curriculum itself. Additionally, the *LCCE Inventory* offers suggestions for IEP implementation of *LCCE* skills.

Brolin (1991) describes the three assessment batteries in the *LCCE Inventory*:

> The Competency Rating Scale (CRS). . . . has been developed as a systematic approach to organizing and standardizing the assessment of students in the Life-Centered Career Education Curriculum. . . . The CRS is a rating scale built around the 22 life-centered competencies. The 22 competencies have been further delineated into 97 subcompetencies. The subcompetencies serve as the actual CRS items. . . . Rating is performed by those most knowledgeable about student performance in a specific area, usually a teacher.
>
> The Knowledge Battery is a standardized criterion-referenced instrument. It uses objective questions to assess students' knowledge in critical areas. . . . The Knowledge Battery consists of 200 multiple-choice questions (Forms A and B). . . . The test requires 3-4 hours to administer, depending on the ability level of the examinees.
>
> The Performance Battery . . . consists of 21 competency tests covering all but Competency 22, "Obtaining a Specific Occupational Skill," which varies according to the skill being taught. Since it would be extremely time consuming to require students to actually perform/demonstrate every

competency area in the multitude of situations and settings that will be needed, some test items are actually advanced knowledge questions requiring judgment and problem solving. There are seven competency tests that require the student to fill out applications and blank forms of various types, figure a budget, manipulate small objects, cook a meal, store food, and so forth. . . . The total time estimated for the Battery is approximately 35+ hours. (pp. 133-134)

Practicing educators describe the usefulness of the assessment components of *LCCE*:

[LCCE] *is a curriculum that has assessment built in—both hands-on assessment and rating scales assessment and also a knowledge assessment. Then, if according to those assessments, there's an area that's weak, there's a whole series of lesson plans, laid out for you to use to help the student gain those skills. It's a very well organized, step-by-step, sequential program. . . . As part of the IEP process, students 14 or older have to be assessed for transition and we use* LCCE *as their transition assessment. We do the knowledge battery, and from that, we find the areas that are the weakest and then go on to the hands-on activities to teach those skills.*

Lynn Hanson
High School Special Education
and Applied Communications Teacher

Before we started using LCCE, *we never had the kind of specific data [provided by the* LCCE *Inventory] . . . we just made our determination of the programmatic stuff, but it was never predicated on any type of data information, just observation. So, [the assessment] was what we were looking for.*

Arlo Renschler
Secondary Special Programs Director

We do the knowledge battery for all our seventh grade special ed kids as a routine thing. Then we give the knowledge battery again for all the tenth grade kids. In between, the teachers look at the knowledge battery at their

I believe the best features include the assessment components. There is an extensive knowledge battery and a series of performance tests that go with each of the competencies that are presented in the curriculum. Given the ability to pretest or assess a student, you can then focus more extensively on the skills that the youngster needs in order to be an independently living individual.

Shirley Spazia
High School Alternative
School Teacher

annual staffings and make individual decisions based on what they see. If a kid was really low in a certain area, then they might follow up with goals, and they might follow up with the performance battery. . . . It's nice to have all that assessment data so that it's not just somebody's idea to work on these skills. It's a way of documenting that the kids don't have these skills and they need them.

Bonnie Kriha
Special Education Coordinator

Target Population

While *LCCE* is generally recognized as a curriculum for preparing secondary students with special needs (especially students labeled as having specific learning disabilities or educable mental handicaps) for life as a productive adult (Brolin & Loyd, 1989, Bucher, Brolin, & Kunce, 1987), Brolin (1992) points out that the skills taught in *LCCE* are appropriate for *all* students. The program has been modified by educators for use in the elementary grades and has also been used in classes with both regular education students and students with disabilities.

Implementing *LCCE*

Brolin (1991) describes how implementation of *LCCE* affects the roles of persons with a stake in education:

> Implementing an effective career education program is predicated on the appropriate redirecting of traditional teacher/counselor roles and a heavier involvement and investment in educational programing from parents, community agencies, and business and industry personnel. In the development of each school's career education plan, these roles should be clearly explicated by the LCCE Committee which includes

> parents and community representatives. . . . The Life-Centered Curriculum approach advocates a changing role for the special education teacher. The teacher would become more of a consultant/advisor to other school personnel, parents, community agencies, and industries by coordinating services and integrating the contributions that school, community, and home can make in meeting each student's life career development needs. (p. 14)

The *LCCE Trainer's Manual* (Brolin, 1993) recommends that training occur during 10 sessions, each lasting three to four hours. The *Trainer's Manual* provides detailed recommendations regarding the organization of the training sessions, the topics and content to be covered, and the responsibilities of trainers, as well as detailed plans for each training session. Training consists of a combination of lecture, discussion, individual or small group activities, and videotapes designed both to impress upon trainees the importance of career education and to provide them with the knowledge and materials to implement *LCCE* in their own districts and classrooms.

An elementary school special education teacher describes how she and her colleagues have implemented *LCCE* and adapted the materials for elementary school:

We've adapted a lot of things. The curriculum is set up nicely; it's got the competencies and the subcompetencies all set. But about two years ago, five or six of us got a booklet together which basically breaks the curriculum down for the elementary level. We took the subcompetencies and we color coded them as to primary, intermediate, and so forth, for the skills in elementary that should be taught at those levels. We took the LCCE *curriculum and adapted it because even though it's a wonderful program and laid out very nicely, the skills in there are for secondary. So we just modified and adapted to bring the lessons down to an elementary level.*

We got a grant where we were able to get an apartment, so for the last two years we've had an apartment at our disposal to be able to go over to. This year we've gone to the apartment twice a month. We had the real-life setting right there. It was furnished. We cooked and cleaned and did laundry right in a real-life setting with the kids. It's been wonderful.

This program is a lot of work. Even though we've got a curriculum that's well laid out, we still have to plan because we've got a group of about nine or ten children and things have to be organized. The LCCE curriculum has a lot of material and you have to pick and choose priorities. And you have to look at the needs of the children. You can't just say, "Okay, we're going to teach this to everybody," because all things do not always work with all groups. So, each year when we sit down to plan, it takes a lot of time. We have to look at the needs of the children and match it with the curriculum.

Shelly Boldt
Elementary Special Education Teacher

Testimonials of Effectiveness

Although *LCCE* has been field tested, reviewed, and revised, to date there are no empirical studies that document the effectiveness of this program. Instead, we rely on anecdotal evidence of effectiveness from practicing educators:

LCCE is probably one of the biggest motivators that we have. The kids never forget that Friday we go [to the grant-funded LCCE apartment]. They're constantly asking, "When are we going again?" They know it's on a Friday, and yet, every day of the week they want it to be Friday. We have children all the way from a low functioning MH child to an ADHD child who absolutely has the worst time staying on task for many academic, in-class things. You'll see the kids [when they're working on LCCE] split into groups, they've got their project, they're doing things, and they're just so willing and so motivated. It's great.

Shelly Boldt
Elementary Special Education Teacher

The program works relatively well for the students because it does incorporate a variety of activities. It's not just another book or worksheet activity. It's a "doing" activity.

Lynn Hanson
High School Special Education and Applied Communications Teacher

In terms of looking at transition for a special education population, philosophically, I believe that quite often we consider transition too late, and we miss the point that we are preparing our student population, whatever label of special education that they may be, to be competitive in a general, or open job market. In terms of social skills, a lot of our students need to be instructed in the ability to communicate effectively and work cooperatively in the work settings. . . . And without that opportunity throughout their four years of high school, and preferably in the middle school and elementary school, they're like a fish out of water when they're just thrown into the population that way.

I think LCCE *has worked very well. Students enjoy the lessons. They like the variety, they like the diversity of the lessons. The population of students that we work with are not pencil-and-paper type kids. Their strengths, I believe, are verbal strengths, so that in using the curriculum, the kids can use the verbal strengths. They can role play. They can express opinion. They can shine and perform well. . . . You can see when they carry over the skills in other places throughout the school day—whether it be in a hallway interaction, or a lunchroom interaction, or in another classroom that students are learning from this type of instruction and will apply the skills with everyday living. That's the whole purpose of life skills instruction.*

Shirley Spezia
High School Alternative Class Teacher

LCCE *works very well for the students because they identify the basal level of the kid and then take it from there, so it's totally success oriented. It's not failure oriented, like most other learning activities that these kids are faced with. Most of them are constantly confronted with not really knowing what's going on. Here they're at a level where they succeed.*

Arlo Renschler
Secondary Special Programs Director

One of our activities last year was going bowling. I would say about a dozen kids went on that trip—two different classes. And I would say that about 10 of them had never bowled before. The nicest thing about that, and maybe it's related to LCCE, *is that two or three of them are bowling quite regularly and*

The teachers talk about how . . . the kids blossom because reading suddenly makes sense to them. They're not being beaten over the head with a book. It's hands-on, it's community-based. I think that behavior problems lessen when you're doing those kinds of activities rather than sitting in the classroom with the book.

Bonnie Kriha
Special Education Coordinator

have been for almost a year now, because of an outing that we related to what we were doing in class. . . One of the criteria [for going] was that you had to be able to keep score.

Robert Spanke
High School Special Education Teacher

We did a follow-up this last summer on community integration. What we found was that the students with disabilities who were leaving our school were as prepared for adult life as they were anywhere else in the state, and perhaps in some ways, more prepared. I think that when you have the emphasis that we have had on functional skills using LCCE, *you get that kind of foundation for kids, so that when they leave, they are prepared with those types of skills. Those skills are not addressed in the regular ed setting, or if they are, they're not addressed in a manner in which kids with disabilities can acquire those skills because it's done too quickly or something. So, although I do believe that before we used* LCCE *we also had kids leaving with a pretty good foundation, I think that now we're more assured of it. I think we feel a little more confident about the students [after they leave high school].*

Pam Olson-Lorenz
IEP Manager

I have one [student] in particular who never wants to do his work, and he was just totally motivated with LCCE. *I had no problem telling him to get his math out today. If I had given him his book and said, "Now you're on page 44, I want you to go to 44 and start your lesson," it may have taken him all day, and he still might not get but one or two problems done because he doesn't want to do it. But with this [*LCCE*] lesson, with it being more motivating and giving him a chance to get out of his seat, and use the skills, I didn't have any problem with [this child's] behavior. I didn't have any problem getting him to try it again. It's a godsend to teachers and I love it. The kids had a good time, and I did too! I just love it when the classroom comes alive and you can see that the kids are learning.*

Henrietta Lee
Middle School Special Education Teacher

LCCE is really working well. [The students] are really getting interested. Now we're talking about jobs and we're going to be doing job applications and resumes, and the kids are really getting into it. Now they want me to find them jobs!

Greg Kohn
Middle School
Special Education Teacher

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LCCE and Students with ADD

Practicing educators provide information about the child with attention-related disorders and the *LCCE* curriculum:

One child that I saw this year is learning disabled in most of the academic areas—reading math, and writing—and definitely has some real attention problems and behavior problems. When he started this year he didn't have any clue as to the type of things we were going to do in LCCE, *nor did he ever do anything at home. He just never participated. He never made his bed, he never helped clean dishes. I think that if he acted up at home, Mom just said, "Whew! I'll just do it for you." And once we got him to participate and he realized that he was part of a team, and he had to be a team member, and there wasn't a choice, then we saw him just blossom into one of the best helpers. His hand was always up, answering all the questions. If he could have, he would have answered all of them. He didn't necessarily know how to, say, open a can of soup, but he learned very quickly and the internal motivation happened real fast. . . . We're getting more and more children with attention-type problems. I don't know what's happening, but this year, we probably had 10 children being evaluated, and about 50 children that we were suspecting. They were having some real difficulties with focusing and attention. . . . Because of the type of things [that the curriculum teaches], it's very relevant to them. They participate. It's very hands-on. We see it as being VERY valuable. They zero in and are able to focus on* LCCE *tasks more than on many, many other things. They tell us, "It's reading, it's writing, it's math, but it's fun." They aren't even realizing that they're learning. They say to us, "We didn't do math." We say, "We did a bunch of fractions when we measured all this stuff out. We read when we read the laundry detergent box and the recipes. We write every single time with the journal." I believe that the program is very valuable for attention deficit kids.*

Shelly Boldt
Elementary Special Education Teacher

These kids need to be taught cognitive-behavioral skills, social skills, self-control skills. If somebody says to me, "There's a kid with ADHD and he's got some social skills problems, and he's got some transition issues, and he's going to be out in the world in three years, and he's got no skills at all," I'd tell them to look at *LCCE* because *LCCE* has all those domains. . . . I can't just say that *LCCE* is going to solve the problem, but it's very comprehensive and I would recommend it immediately.

Jimmy Lorenz
School Psychologist

We've been doing role plays about two or three times a week, in many of the lessons, and LCCE *lends itself to role plays. One young man was given a role play where he was assigned to communicate, using verbal and nonverbal cues, that he was a candidate for the class president. And the young man has a very short attention span. Very loud. Can't sit in his seat for more than 10 minutes without making a move, but he was able to effectively role-play a very quality candidate for president. And within about a minute, he had the entire class cheering him. He had fun pretending he was somebody other than himself, where he could use that energy and boisterousness in an effective way. . . . I think that there are definite benefits in using it with the [ADD] population. . . . We probably do an injustice by suggesting that those youngsters should remain seated and do everything in a secluded independent way. And that tends to be the way we manage most of our behavior or emotional or hyper kids. . . . And they're our future employees, and they need to know what to do. And how do you use that energy, and how do you make it productive? This is a good opportunity to do that because this curriculum is an outcomes-oriented program. They have to produce and they have to demonstrate. It works very well with those kids. Many of them are gifted and talented youngsters—very bright and need to know how they can use that intelligence, combined with the energy to be productive.*

Shirley Spezia
High School Alternative Class Teacher

Some days [a boy with ADD] does really well with [LCCE], *and some days he doesn't. . . . When he's into it, he's into it. He was in my first hour today, and boy, he had just a great day—he was coming up with all kinds of jobs in the city and what they did, but some days if he's not into it, then look out!*

Greg Kohn
Middle School Special Education Teacher

Some Limitations

It would be nice if there were some . . . more hands-on things, because for elementary you need so many more.

Shelly Boldt
Elementary Special Education Teacher

When you're looking at a package like LCCE, *it looks like it is so comprehensive and complete, but I think that sometimes people look at it and say, "Aha! This is my answer to everything!" And I think that, even though it's the best tool, it is just one tool. . . . I'm afraid that people will get locked into only using this. Especially, with assessment, it can be that the assessment team can get locked into using just one device, and really, you want to get as much information from as many instruments and from as many people as possible.*

Jimmy Lorenz
School Psychologist

I find I personally have to modify [the materials] frequently, but I often get the feeling that's because our situation is—well, it's not unique, but this is a poverty community. We have some problems here that you might not have in many places. So that when you say to kids, "Go home and list half a dozen things in the cupboard," you can't do much when they say, "There isn't anything like that at my house." It's not there and available. [Food] comes into the house, it's consumed, and used, and gone. So, I've got to modify. I've got to start saving stuff at home and dragging it in here.

Robert Spanke
High School Special Education Teacher

Sometimes I think that some of the units or instructional activities may be a little elementary, or they may be less difficult than they could be, or should be, for some students with disabilities.

Pam Olson-Lorenz
IEP Manage

With some of the plans, I think that they need to be enhanced or reinforced in another way to make the lesson more challenging for a more able population.

Shirley Spezia
High School
Alternative Class Teacher

Teachers' access to resources is the only drawback. You have these great lesson plans, but if you don't have access to the resources to tie it together . . . if you want to take your children on a field trip, but you don't have the money to do all the things you'd like to do with them, that could be the only drawback—you wouldn't be able to do the entire lesson.

Henrietta Lee
Middle School Special Education Teacher

Also, you've got to bring the program into the age of technology. *LCCE* is so conducive to using technology to help teach it, that somebody's got to take the money and the time to make that conversion into the high-tech media dimension. This could be a phenomenal package.

Arlo Renschler
Secondary Special Program Director

Staff development. Special ed teachers aren't especially tuned in to dealing with those kinds of learning activities, although everyone would think that would be automatic for special ed teachers. Not true. . . . We ran into trouble here when we introduced [the program] at the high school and then tried to bring it down to the middle school/junior high level. And the biggest hassle was trying to get those teachers to buy into it because they didn't understand the concept. That's where the schools need help. They need some expertise to come in and lay out the parameters and [explain] conceptually how this is put together and why it's relevant.

Arlo Renschler
Secondary Special Program Director

Research Support

To date, researchers have not formally evaluated the *LCCE* curriculum in actual practice in schools. *LCCE* in various forms, however, has been widely employed in schools during three decades and thus can claim some level of legitimacy through use. Additionally, the program is based on "extensive field testing throughout every stage of its 20-year development and expansion [and] hundreds of educators and others have been involved in our efforts to verify and finalize its basic tenets and supporting materials" ("Meet Donn E. Brolin," 1994, p. 55). No published reports describe the field testing.

Contact for More Information

For more information on *LCCE*, contact:

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